

FEB 1932

THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS



Housing in the Irish Free State

S. J. BRANDENBURG

II. Mississippi River Traffic: 1918-1930

JOHN D. SUMNER

Regulation of Appliance Merchandising

RICHARD A. HARVILL

Production Costs of Land in Sunnyside, L. I.

ROSALIND TOUGH

Regulation of Mergers in Connecticut

CLYDE OLIN FISHER

Financial Planning for Utilities

IRWIN S. ROSENBAUM

Consolidation Through Holding Companies

KENNETH FIELD

Steam Railroad Electrification

MYLES E. ROBINSON

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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

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Of The Journal of Land and Public Utility Economics, published quarterly, printed at Madison, Wis., published at Chicago, Ill., for October 1, 1931.
State of Illinois, } ss.
County of Cook

Before me, a notary public in and for the State and county aforesaid, personally appeared Dora E. Wallendorf, who, having been duly sworn according to law, deposes and says that she is the business manager of the Journal of Land and Public Utility Economics and that the following is, to the best of her knowledge and belief, a true statement of the ownership and management of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

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Housing Progress in the Irish Free State

By S. J. BRANDENBURG

THE habitations of the Irish are traditionally bad. For nearly half a century governmental agencies, acting under authority conferred by British and Irish Free State Parliaments, have encouraged and assisted families seeking to attain a higher level of household comfort and sanitation. Amelioration has been appreciable, but slow. Low housing standards established in unhappy days of the past, the typical Irish resistance to change, political uncertainty and instability, the habit of looking beyond the seas or beyond the grave for compensation for present discomfort, the limited resources and wealth-producing capacity of the region, the disruption of the World War, the post-war civil disturbance and high prices, all combined to retard improvements even of the most fundamental character. Despite these handicaps, progress has been made, especially in recent years. But much remains to be done and the government is now considering plans for a more comprehensive and consistent program.

The total population of the Irish

Free State is slightly less than 3,000,000, about $\frac{2}{3}$ rural and $\frac{1}{3}$ urban. The housing program may be conveniently considered by dividing it into three somewhat overlapping parts: urban, rural, and the Congested Districts, which are also rural but present peculiar difficulties.

Present Overcrowding

The need for housing improvement in the Free State as compared with neighboring parts of the United Kingdom is indicated by the figures in Table I which shows the percentage of the population living in private families in habitations averaging more than two persons per room.

In the Free State as a whole the typical habitation (that size of domicile which houses the greatest proportion of the population) is three rooms; the typical family (14.8% of all families) is five persons, but 51% of the families consist of six or more persons each. In Dublin the typical habitation is one room; in Cork and Limerick, two; and in other towns, four. The typical urban

family also is five persons, but 49% of all urban families consist of six or more persons each. In the rural districts the typical habitation contains three rooms; the typical rural family is likewise five persons, but 52.5% of the rural families number six or more persons each.¹ In so

TABLE I. PERCENTAGE OF POPULATION IN VARIOUS REGIONS OF THE UNITED KINGDOM LIVING IN PRIVATE FAMILIES IN HABITATIONS AVERAGING MORE THAN TWO PERSONS PER ROOM.

Region	Year	Region as a Whole	Rural Districts	Urban Districts
Irish Free State...	1926	27.2%	25.5%	31.3%
North Ireland...	1926	18.1	21.6	14.7
England and Wales	1921	9.0	6.5	10.4
Scotland.....	1921	43.3	*	*

*Data not available.

far as number of rooms per family means anything, and disregarding comparative size of families in the regions mentioned, we may conclude that the people of the Irish Free State are more spaciouly housed than those of Scotland, but less spaciouly housed than those of North Ireland, Wales, and England. Apparently, also, with reference to number of rooms occupied, conditions in rural areas are little if any better than in urban areas.²

Urban Housing Progress

Aid to Private Purchasers. To encourage home ownership by purchase, local authorities were empowered³ to advance funds to prospective resident owners up to 90% of the purchase price of houses with a market value not exceeding £800 (£400 in original act). These advances were to be repaid in frequent installments extending over a

period of 50 years (30 years in original act). These opportunities were not widely utilized; fewer than 600 houses were transferred under the provisions of the acts. Reasons given for this slowness of transfer illustrate some of the difficulties encountered: (1) owners were loath to sell and occupiers to buy, the latter preferring tenancy at fair rent to responsibilities of ownership; (2) ignorance of the law's provisions, red tape, and delay (about six months) in getting advances; (3) loss of job, migration, and other disruptions were always imminent factors which discouraged the workingman's desire for a fixed abode.

Aid for Municipal Construction. In 1919 the estimated shortage in municipal areas was more than 46,000 houses. One of the first acts of the Provisional Government in 1922 was to set aside a grant of £1,000,000 to assist the erection of houses by municipal authorities. This grant was allocated to municipal districts on the basis of ratable value.⁴ In order to qualify for a share in the grant, local authorities had to levy a special rate of not less than one shilling in the pound, and borrow additional amounts approximately three times as great as the proceeds of the levy. The contribution of the government was double the amount raised by the municipality. In the first six years that this act was effective 71 out of 94 municipal authorities availed themselves of loans to the amount of £994,000 and provided thereby about 2,100 four-and five-room houses at an average cost of £570 and £600 respectively.⁵ These houses were to be leased or sold to the occupiers.

¹ Data from Irish Free State, *Census of Population*, 1926, vol. IV, Housing Conditions.

² "Rooms occupied" refers to living rooms, bedrooms, kitchens, etc., and does not include bathrooms and sculleries. It is also true that some urban tenements consist of relatively large rooms, in houses that once sheltered the gentry and well-to-do middle classes.

³ Small Dwellings Acquisition Act, 1899; amended 1919.

⁴ "Rates," in common British usage, are levies by local authorities for local purposes. "Taxes" are imposed by the national authorities.

⁵ Irish Free State, Department of Local Government and Public Health, *First Report*, 1922-25, pp. 77-80, 158-159. See also Irish Free State, *Statistical Abstract*, 1931, p. 94.

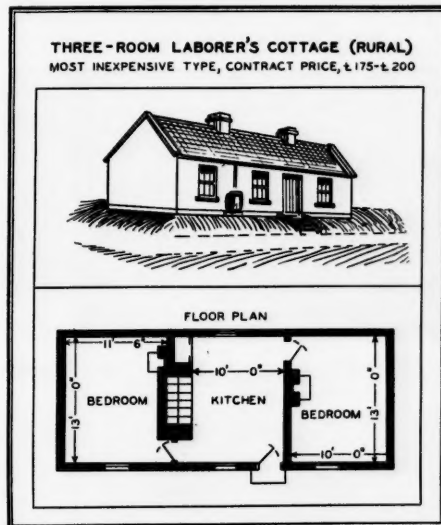
Except in Dublin, where many were sold,⁶ the majority are yet occupied under lease.

Aid to Private Builders. In 1924, with the desire of stimulating private activity in building and reconstruction, the State set aside another fund out of which builders were granted £50 to £100 for each new house completed and $\frac{2}{3}$ of these amounts for each house reconstructed; the aggregate of such subsidies was not to exceed £300,000. Later the local authorities were authorized to make additional grants not exceeding those made by the National Government. The next year similar subsidies were allowed to local authorities and public utility societies.⁷ The total amount available for such subsidies was raised by successive laws until 1930, when the maximum was placed at £1,250,000. In the meantime, the subsidies on individual houses were reduced to £45 for private builders and £60 for local authorities and public utility societies; also local authorities acting under the Housing of the Working Classes Acts, 1890-1921, and under the Labourers' Acts, 1883-1919, were allowed subsidies of £60 and £50 per house respectively.

Tax Adjustments and Control of Prices. As a further inducement, abatements in the rates were granted to the amount of $\frac{1}{20}$ of the value of a new house the first year, the abatements diminishing to $\frac{1}{20}$ of this value in the 19th year. On rebuilt houses no increase in valuation for rating purposes was to take place for seven years. The law further provided that the Minister for Local Government and Public Health should have discre-

tionary power to control the prices of building materials and to purchase and manufacture such materials.⁸

As the work progressed the several cooperating agencies developed approved types of houses, which were accepted by the housing authorities as most suited to particular housing needs.



These were mostly three- to five-room structures of one story, with a floor area of 600 to 900 square feet, and a cubic content of 7,500 to 11,000 cubic feet. Walls were of 7- to 9-inch solid concrete, 9-inch plastered blocks, or 12-inch local brick. Roofing material was asbestos slate, asbestos tile, and natural slate, in the order mentioned. Slate from the Irish quarries was recommended by the Department. Cost of such houses ranged from £285 to £540, about £100 per room; or from 8 pence (17 cents) to 12.75 pence (25 $\frac{1}{2}$ cents) per cubic foot.⁹

⁶ Cf. p. 6, n. 15 *infra*.

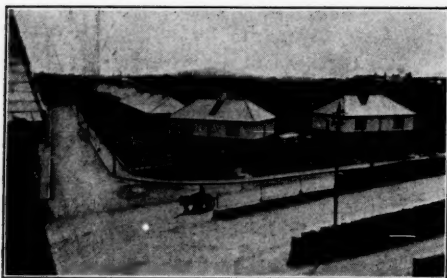
⁷ These are building societies, cooperative, semi-philanthropic, or sometimes of the limited dividend type.

⁸ Hanna, Henry, *Statute Law of the Irish Free State, 1922-1928*, pp. 79-80. See also, Committee on Relief

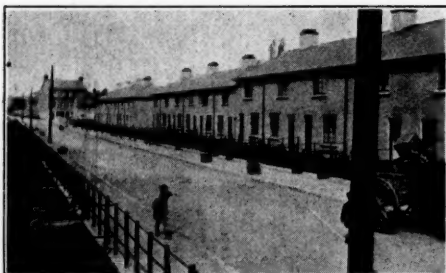
of Unemployment, *Final Report*, 1928, p. 5 ff.

The writer was able to find no instance in which the Minister exercised his power to control prices.

⁹ Irish Free State, Department of Local Government and Public Health, *Fourth Report*, 1928-9, p. 204.



1. Modern Houses in Thurles, County Tipperary.



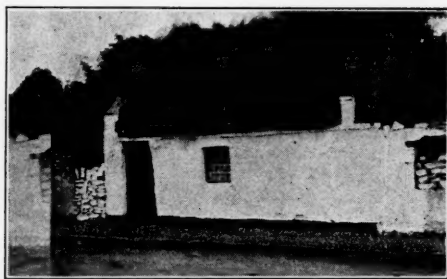
2. Row of Modern Houses in Thurles, County Tipperary.
(Close-up of part of the improvement shown in Figure 1.)



3. Congested Districts House (Plan 9, L. G. B. type) nearing completion at head of the bay in Baltimore, County Cork.



4. Ricks of turf and cottages old and new, Village of Dooagh, Achill Island, County Mayo. This village has been almost wholly rehoused in the last decade.



5. Cottage in the Town of Sligo, County Sligo. Many of this type remain.

The total number of houses provided under these aids, 1922 to 1929, was about 14,000 including some which were in rural districts. The total contributions from the National Government amounted to about £1,895,000,¹⁰ an average of about £135 per house. This sum may be regarded as the State's gift to public, semi-public, and private home-builders—a permanent investment in better homes for the people during the first seven years of the new nation's life. (See diagrams and pictures, pp. 3, 4, 5.)

Garden Allotments. On the assumption that family vegetable gardens were desirable and would be utilized, an Act of 1926 empowered local authorities (borough and urban councils, town commissioners, etc.) to acquire suitable land for this purpose by agreement or by compulsion, and to lease it to families for vegetable growing in areas of not more

¹⁰ *Ibid.*, p. 100.

Recent building is summarized in the following table:
Houses Built under State Aided Schemes and Total of State Grants Paid, Irish Free State, April 1, 1922 to March 31, 1929.*

Houses Built by	Size of Houses in Rooms				Total Number of Houses	Total Amounts of State Grants Paid
	2	3	4	5		
Private persons and public utility societies	469	2,063	6,528	9,060	£667,298	
Local authorities	67	489	1,077	3,187	4,820	1,227,117
Total	67	958	3,140	9,715	13,880	1,894,415

*Adapted from Irish Free State, *Statistical Abstract*, 1931, p. 94.

than $\frac{1}{4}$ acre. Expenditures incurred in procuring the land were to be recouped from rents received from the allotments.¹¹

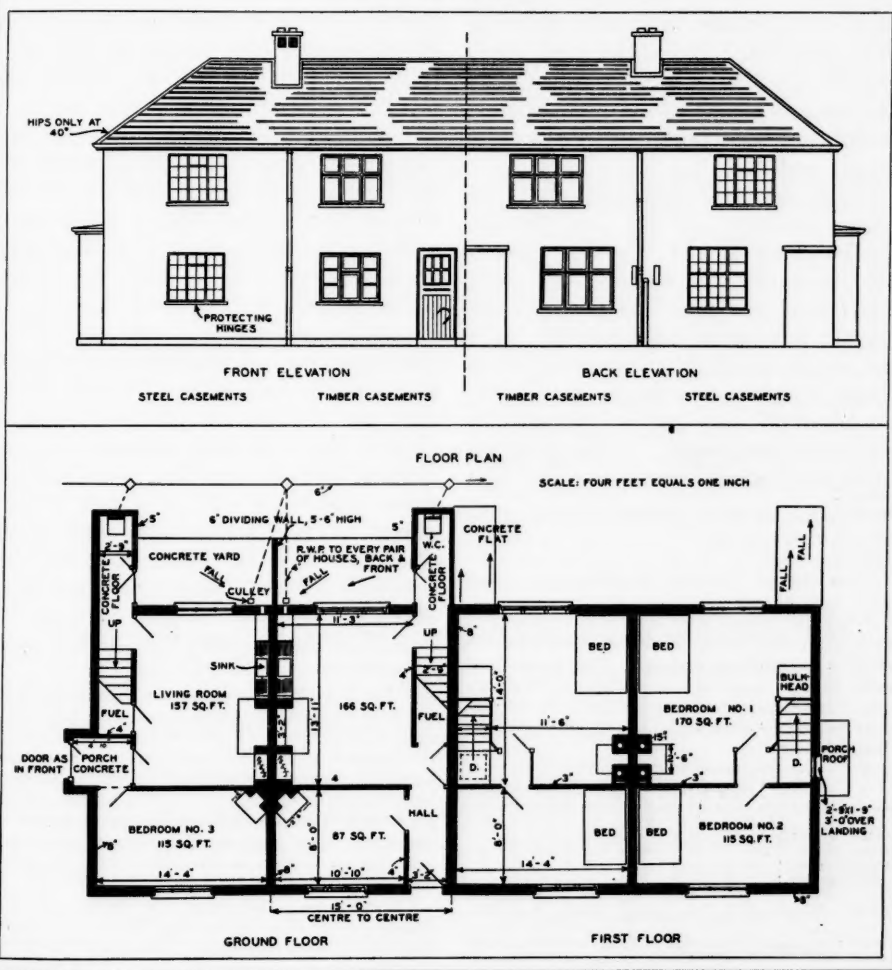
Dublin's Problem

Dublin has long had an unsavory reputation in respect to living conditions. The City contains about 1/7 of

the nation's population, but it constitutes perhaps $\frac{1}{2}$ of the housing problem. The 1926 Census revealed that 45% of the persons in private families lived more than two persons to the room; 23%, four or more to the room (in one ward the percentage was 38). Nearly 28% of

¹¹ Irish Free State, *Public General Acts*, 1926, p. 71. See also Hanna, *op cit.*, p. 50.

TWO-STORY, FOUR-ROOM URBAN HOUSES, BUILT IN SERIES OR IN ROWS
COST ABOUT £ 300



the population was included in families occupying only one room. In the 15 years ending 1928, the number of Dublin houses unfit for human habitation and incapable of being made fit increased by about 15%.¹² This deterioration is, of course, attributable partly to the almost complete cessation of building activities during the war and for several years thereafter; this cessation is well evidenced by the fact that though the Housing Act of 1919 offered loans on easy terms to urban builders,¹³ only 30 houses were erected in Dublin with the aid of these loans during the three years that the Act was in force.¹⁴ Since 1922 the City has gained about 4,000 houses, erected with aids provided by the Acts of 1922 and later.¹⁵

Authorities now recognize that the Dublin problem presents two distinct aspects: housing the working classes, and eliminating the slums. The main emphasis in the past has been on the first—to build good houses in the belief that people would filter upward and so gradually vacate the slums; but “filtration upward” has hardly equaled the downward movement. The proposal now is to attack the slums directly. The

present estimate is that at least 10,000 families must receive some rent concession in order to have livable quarters; the proposal, therefore, is to erect a limited number of habitations to be let at rents graduated according to the tenants’ ability to pay—about one half crown (61 cents) a week per room, which is hardly $\frac{1}{2}$ the present competitive rate.

The Free State Government is now considering legislation^{15a} which will give wide powers to the Department of Local Government and Public Health, acting in cooperation with the Dublin corporation, and with the aid and advice of private associations of public spirited and philanthropic citizens,¹⁶ to order and compel the clearance of large blocks of the slum area, to acquire the sites at the cleared land value, and to enter upon a long-time (probably 10 years), progressive program of building. Authority is also sought to compel the demolition of unfit tenements and the transfer of their sites, even if they are not immediately needed for new construction, or, if they are needed, for playgrounds and parks. This sustained program aims to destroy both the slum and the unwholesome conditions out of which it has grown. This is a large task for a small country. But the Government and its citizens see the problem clearly and in its entirety. Millions of pounds must be found for the purpose, largely by loans

¹² Committee on Relief of Unemployment, *Final Report*, 1928, pp. 3-5, 24.

¹³ Cf. p. 3, *supra*.

¹⁴ Committee on Relief of Unemployment, *Final Report*, 1928, pp. 3-5.

¹⁵ About 950 houses were constructed under provisions of the 1922 Act (p. 2 above), some of which have since been sold to occupiers. The houses were divided into three classes, according to Poor Law Valuations (the yearly value as estimated for the purpose of levying the Poor Rates) and transferred on the following basis:*

	Class A		Class B		Class C	
	£	s	£	s	£	s
Poor law valuation	12	0	11	10	11	0
Purchase price . . .	440	0	420	0	400	0
Annuity (40 years)	26	0	25	0	24	0
Ground rent per year (according to area) . . .	2	10	2	10	2	10

*Irish Free State, Department of Local Government and Public Health, *First Report*, 1922-25, pp. 158-9. Cf. also p. 2 n. 5, *supra*.

^{15a} The Free State Parliament, on December 17 last, approved the Housing (Miscellaneous Provisions) Bill, 1931. It is entitled: “An act to make better provision for the clearance of unhealthy areas and the repair and demolition of insanitary houses; to amend . . . [various acts passed 1883 to 1930] . . . ; and to make further provision for the financial assistance of local authorities and others in the provision of housing accommodation under those enactments as amended by this act, and for purposes connected with the matters aforesaid.”

¹⁶ Notably the Civics Institute of Ireland, and the Association for Housing the Very Poor. The former organization is actively seeking a national Town Planning Act.

which it is proposed shall be repaid in part from rents over a 40- to 50-year period. The need is urgent and so obvious that the public appears ready to approve a considerable subsidy from the public treasury—a public social service worth the cost.

Urban Rent Control

The shortage of housing induced the new National Government in its earlier years to enter upon the policy of rent and mortgage interest control. The law of 1923 defined standard rent and standard interest as those rates prevailing at the outbreak of the war. It forbade increases in either rent or interest except as specified under the act, and granted to tenants and borrowers the right to appeal to the courts for relief from oppressive rates. These restrictions were originally limited to houses whose rent or ratable value did not exceed £60 in the Dublin metropolitan area, and £40 elsewhere; they were not to apply to houses built after April, 1919. Enacted originally for a three-year period, the control measures were extended by later laws to the end of the year 1930. In the meantime, however, by successive steps houses of higher valuations were "de-controlled," until in the final revision of the law only those valued at £25 in Dublin and £20 elsewhere were retained. These restrictions as originally imposed bore very heavily upon the landlord, but as housing facilities were extended the control was gradually lightened, and is now about to disappear altogether.¹⁷

Housing in Rural Areas

More than $\frac{1}{2}$ of the Irish population which is gainfully employed is rural in occupation, and a still larger portion is

rural in conditions of residence.¹⁸ A recent official report describes

"the old country dwelling with its damp clay floors, perishable thatched roof (requiring endless repairs), badly built walls (propped with stones and sods and timbers), small fixed windows incapable of admitting sufficient light or any air at all, overcrowded, located usually in hollow ground for shelter from storms, and too often having a cess-pool or manure pit within a few feet of the front door . . . [These are] being replaced by new houses built on healthy sites, having good aspects, with slate roofs, and windows that may be opened, and large enough to admit plenty of . . . light to all the rooms. Most of the new houses are built in masonry and concrete . . . It is unnecessary to enlarge upon the improvement to health, immunity from disease and general well-being which follow on this rehousing."¹⁹

For half a century rural housing improvement has been of vital concern to the government, British²⁰ and Irish. The present government has paid special attention to providing agricultural laborers²¹ with livable houses, and with allotments of from $\frac{1}{2}$ to 1 acre. Construction has been carried on under the supervision chiefly of the local sanitary authorities. State loans on favorable terms and state subsidies have enabled the authorities to construct and let cottages at low rates, the average being

¹⁹ Department of Local Government and Public Health, *Second Report*, 1926-7, pp. 92-3.

Deaths from Tuberculosis per 1,000 Population.*

District	Year		Percentage Decrease
	1923	1929	
County boroughs and urban districts with population over 10,000	2.11	1.86	11.8%
Urban districts with population under 10,000	1.93	1.61	16.6
Rural districts	1.25	1.11	11.2
Irish Free State as a whole	1.48	1.32	10.8

*Adapted from Irish Free State, *Statistical Abstract*, 1931, p. 9.

²⁰ The first Labourers' (Ireland) Act was passed by the British Parliament in 1883.

²¹ The 1926 Census lists 116,409 agricultural laborers of both sexes, of whom 89,963 were not "living in" (i. e., not living in the employer's household).

¹⁷ Hanna, *op cit.*, p. 73.

¹⁸ Irish Free State, *Census of Population*, 1926, vol. II, Occupations.

about one shilling three pence (30 cents) a week for cottage and garden. Loans advanced by the state up to 1930 totaled about £7,270,000. Slightly less than $\frac{1}{2}$ this sum was contracted for prior to 1906, and is to be repaid over a period of 30 to 50 years, the rate varying from $3\frac{1}{2}$ to $4\frac{1}{4}\%$, principal and interest. The indebtedness of the local authorities in respect of these loans at the end of the last fiscal year was about £1,900,000, slightly more than $\frac{1}{2}$ the total advances; the repayment during the year was £112,235, of which the State contributed £29,200—a subsidy of about 26%. Further aid was given under the act of 1906, which provided additional loans repayable over a period of $68\frac{1}{2}$ years at a rate of $3\frac{1}{4}\%$, principal and interest. Of the annual sum repayable by the local authorities, 36% is contributed by the state.²² More than 42,000 laborers' cottages have been provided since the work began in 1883.

Rural housing in general has been encouraged by the successive acts passed since 1924. Under these acts grants are

²² The following summary gives particulars of loans made by the State to the local authorities and the present status of these loans:

	Prior to 1906	After 1906	Grand Total
Total advances.....	£3,473,529	£3,795,984	£7,269,513
Annuity (principal and interest).....	$3\frac{1}{2}$ to $4\frac{1}{4}\%$	$3\frac{1}{4}\%$	
Amount outstanding, March 31, 1930.....	£1,899,552	£3,402,000	£5,301,552
Repayment, year ending March 31, 1930.....	112,235	123,226	235,461
Contributed by State.....	29,205	44,361	73,566
Net cost to local authorities.....	83,030	78,865	161,895
Total cottages provided	20,351	22,031	42,382

The financing of this and other socio-economic projects is the more complicated because prior to April 1, 1922 advances were made to sundry local authorities and persons by the British Government. After the Free State was established, financial obligations were the object of negotiations between the Governments of the two peoples, now politically separated. By the settlement reached in 1926, the Free State Government agrees to pay certain annuities, for varying numbers of years, to the British exchequer. One item of

payable to private persons erecting dwellings in rural areas in a manner quite similar to that described for municipal districts. This recent program has resulted in the erection of more than 9,000 houses at an average cost to the State in subsidies of about £66 each.

The policy of the present Free State Government is to grant to local authorities a lump sum of £50 per cottage, about $\frac{1}{6}$ the cost of the building.

The Congested Districts

That part of Ireland long known as the Congested Districts presents the most stubborn group of problems that the Free State has to face. In the West and North of Ireland is a bleak, storm-swept region, with dripping leaden skies above, rocks and oozing bogs below, and almost no arable land. Tillage, cattle, sheep, some fishing, some domestic industries, some remittance from emigrant relatives, some subsidy from a solicitous government combine to enable about 800,000 people to subsist, most of them miserably. Here about $\frac{1}{3}$ of the Irish people struggle to live on $\frac{1}{4}$ of the area

approximately £600,000 per year, payable for 20 years arises chiefly from British advances for Irish housing. Installments paid by private borrowers, and rents and rates collected by local authorities, are paid into the Free State Exchequer, and transmitted with other funds, to the British Government. In the year 1930-1, borrowers' installments collected fell short of the annuity due by about £15,000; the Free State Government covered this shortage by advancing the required amount from Miscellaneous Revenues.

Such drafts on public funds are met in part by taxation, in part by borrowing. National loans have been issued as follows:

1923.....	£10,000,000 at 5%, payable 1935-45
1927.....	£ 7,089,175 at 5%, payable 1950-60
1930.....	£ 6,000,000 at $4\frac{1}{2}\%$, payable 1950-70
Total....	£23,089,175

Outstanding at the close of the fiscal year, March 31, 1930—£20,888,823

Loans are now made to rural housing projects by the Irish Land Commission acting for the Free State Government. The phrase "contributed by the state" refers to exchequer payments from the Laborers' Cottages Fund to this Commission, in discharge of loans obtained by rural authorities.

and with $\frac{1}{6}$ the wealth of the Free State—a rural slum as wretched and obstinate as the western world can provide. Better housing is only one item in the Government's program, which includes a redistribution of lands in economic holdings, fencing and draining of lands, the transfer, when feasible, of surplus population to other parts of the country where opportunity for a livelihood is less precarious, live stock improvement, seed selection, afforestation, fishery promotion, etc. Recent legislation has concentrated the administration of all these economic and social services in the office of the Minister for Lands and Fisheries. The Housing Act, 1929, permits state grants: for erecting a home or improvement thereof, £80 and £40 respectively; for erecting a poultry house or piggery or improvements thereof, £5 and £2 $\frac{1}{2}$. Also housing loans not to exceed the amount of the State grants just mentioned may be made by the State at the discretion of the Minister, and on terms prescribed by him.

The grants are outright gifts; and the loans are made on such generous terms that they may, in effect be regarded as gifts to the extent of $\frac{1}{2}$ or even $\frac{3}{4}$ of their normal amounts. They are repayable in 68 annuities; but the size of the annuity is adjusted to the borrower's estimated "capacity to pay." For example, an obligation of £100 may be liquidated by 68 annuities of one pound 10 shillings—an arrangement which repays only about £2 more than the principal debt. In such manner, public funds, raised by nation-wide taxation, are devoted to the advancement of the well-being of the poorer sections—a type of socialized endeavor regarded essential to national advancement.²³

²³ The acceptance of the principle of national responsibility for aiding the poorer districts and the needy families of the nation is, of course, not unique; but the

Housing a National Enterprise

The Free State seeks to confine within its own borders the largest possible share of the economic advantages arising from its governmentally stimulated building industry. Reference has already been made to certain approved and specified types of houses and building materials.²⁴ Those types are preferred which utilize the greatest proportion of domestic materials. Ireland produces practically no timber; this is imported, but in a raw state so that the joinery may be done by Irish craftsmen. Consistent efforts are made to utilize native clay for fire bricks and for ordinary building bricks, and the natural slate for roofs. Some seek to develop a domestic supply of building hardware, paints, etc., but with limited success. Officials estimate that the Free State can readily produce about $\frac{1}{2}$ the materials required in carrying out the housing program; that materials constitute about $\frac{1}{3}$ and labor $\frac{2}{3}$ of the cost of the typical house; therefore not more than $\frac{1}{6}$ of the total cost of house construction need go to producers outside the Free State. A building program constricted by Irish national boundary lines may stimulate some internal activity; but we may well question whether this is an economical way to meet an urgent housing need in a small state whose actual and potential capacities are so narrowly limited.

Housing and Economic Recovery

A more extensive national housing program, energetically prosecuted in these deflation years, is urged by some leaders as the best way of checkmating present depression ills. The nation's relatively simple economic organization,

completeness with which the Free State carries out the policy is somewhat unusual among the capitalistic nations of the present day.

²⁴ Cf. p. 3, *supra*.

the preponderance in her population of independent small farmers, perhaps also the customary low standards of living, have protected the Free State from some of the economic ills afflicting other regions. The Government has administered the Unemployment Insurance Act (virtually the same as England's) in a rigorous manner, rather than in the accommodating but expensive British way. It has thereby kept the proportion of those officially recognized as unemployed at a low figure—8 to 9% of the insured workers, or about 21,000 to 25,000 persons. Many people know and some admit that this is an understatement of Irish unemployment. In both city and country there are constantly many more who have no jobs, or are so inadequately employed that they do not earn enough for minimum decency.

These facts and the acceptance by the Government of home-building promotion as a national responsibility are the basis of a demand for a sustained long-time program. It is contended that a 10-year plan, looking toward 3,000 to 4,000 houses per year, would put building operatives to work and stimulate subsidiary trades and employments. Building and supply contractors, being assured of continuous operations, would work on closer margins; processes would be regularized and improved; workers, knowing they would not, at least immediately, work themselves out of jobs, would tend to increase their output;

labor troubles generally would tend to diminish because of assured employment. To these widespread incidental gains would be added the major good—adequate national housing at a cost much less than under the present planless regime. Such an uninterrupted sequence of blessings might not flow from a 10-year housing program; but where is a better national laboratory for trying out such a national plan?

Here then is a small region, with limited resources, reborn in the third decade of the 20th century as a self-governing state, carrying over as a heritage from centuries of "trouble" a huge burden of poverty; a new nation, courageous, ambitious, intensely devoted to the task of vindicating the Irish tradition of nationhood, long buried but still living after years of repression. Retaining what is good from law and policy of the later years of British control, the present Irish Government is proceeding to advance those material and physical comforts for the masses of the people so essential to political contentment and stability. The consequences of a national housing policy which collects a subsidy from the more prosperous regions and individuals for the benefit of the less fortunate may here be observed in all their aspects. In this compact area, those who will may study in detail and comprehend in its totality a socioeconomic experiment in a field vital to human well-being.

II. An Analysis of Mississippi River Traffic: 1918-1930²³

By JOHN D. SUMNER

THE character of the commodities carried by a given type of transport—railroad, airway, motor, or inland waterway—is a matter of major importance. It throws light upon the competitive nature of different forms of transport, the significance of their services, the areas and industries affected by their operations, and the amount and stability of their earnings.

Despite the attention which has been focused upon competition between rail, motor, and inland waterway carriers, comparatively little systematic study has been given to the type of traffic each carrier now handles or to which each is adapted. Many assume that inland waterways are restricted to the transportation of low-value, bulky commodities, leaving more lucrative, high-value traffic to the railroads. The following quotation affords an example of this generally accepted point of view:

"In considering the part played by the railways in the decline of water borne freight, it may be said at once that the waterways

are unable to compete for freight which is of considerable value or which requires a speedy delivery. The superiority of the railways in handling high class freight is universally admitted."²⁴

Such a view implies that carriers by inland waterway are naturally and materially restricted in the kind of freight for which they can hope successfully to compete. Consequently, the accuracy with which such judgments of the necessary character of river freight apply to the traffic of the Mississippi River and of the Inland Waterways Corporation (or federal barge line) is extremely significant in considering their present or future relation to carriers by rail.

Judgments as to the significance of the transport service supplied by the waterway and its principal common carrier, the Inland Waterways Corporation, must also take account of the quality, as well as the mere volume, of freight which is carried. The nature of the commodities comprising such traffic affords a most direct indication of the industries and

²³ For the first section of this article see 7 *Journal of Land & Public Utility Economics* 355-366 (November, 1931). Tables, footnotes, and charts are numbered consecutively with the first installment.

²⁴ Moulton, H. G., *Waterways vs. Railways*, (Boston: Houghton-Mifflin, 1926), rev. ed., p. 79. Professor E. R. Johnson in an early study refers to the "bulky commodities, such as coal, lumber, grain, cotton, etc., adapted to water transportation." (*Ocean and Inland Water Transportation* (New York: Appleton, 1906), p. 371.) In a recent joint work he states that "coastwise and inland waterways are utilized mainly by shippers of relatively few items of bulk traffic, the outstanding water borne commodities being coal, iron ore, petroleum, grain, sand and gravel, lumber and logs, and stone." (Johnson, Huebner, and Wilson, *Principles of Transportation* (New York: Appleton, 1928), p. 720.)

In J. D. and A. G. Black, *Production Organization*, (New York: Holt & Co., 1926), p. 579, it is stated that "water transportation is too slow for perishable or valuable freight . . ." A recent article in *Economic Geography* contains the following: "It is bulk freight of low unit value which is adaptable to transportation by inland waterways—commodities that do not require speed, and which can be handled mechanically." (U. V. Wilcox, "Our Growing System of Inland Waterways," 7 *Economic Geography* 154 (April, 1931)). In the 1930 *Annual Report* of the Inland Waterways Corporation reference is made to this point of view (p. 159): "Many water advocates continually stress the fact that water facilities are adapted to low-grade heavy commodities, and that such commodities alone should so be handled, leaving to the railroads only the high-grade, high-class freight. This is an economic fallacy both ways . . ."

the economic areas affected by the operation of the federal barge line and by Mississippi River improvement, an especially interesting and important topic when the carrier involved is owned and operated by the government. Frequently it has been assumed that a river carrier's operations are local, in the sense of being confined to the banks of the stream, and consequently that the effects of government development of waterways are confined to a relatively small area. The geography of federal barge line traffic reviewed in the first section of this article shows this assumption to be in error so far as the Inland Waterways Corporation is concerned. The commodity character of traffic, however, is an additional measure of both the geographic and industrial extent of the barge line's influence.

The amount and stability of a carrier's revenues depend as much upon the commodity characteristics as upon the volume of its freight. It is interesting that the Inland Waterways Corporation, instead of developing the low-grade traffic to which inland water carriers supposedly are restricted, has sought to obtain relatively high-revenue freight. Indeed, the Corporation, referring to the view that water carriers should confine themselves to low-grade commodities, leaving higher-revenue shipments to the railroads, remarks that,

"If there is to be supplementation, and co-operation of rail, water, and motor carriers, it is not going to be arrived at by taking the 'filler' cargo from one and giving it to another, or the high-revenue cargo from one and giving it to the other."²⁵

The character of general Mississippi River traffic and the high degree of similarity between its average value per ton and that of railroad freight have

been discussed in the preceding section of this article. The geographic characteristics of the traffic of the federal barge line, including the development of traffic interchange with railroads, have also been described. In the present discussion the commodity character of the freight of the Mississippi divisions of the Inland Waterways Corporation will be analyzed in some detail inasmuch as that organization operates the most important common carrier service on the Mississippi. In order to afford a criterion of its quality, the traffic of representative railroads will be contrasted with that of the Inland Waterways Corporation.

IV. Commodity Characteristics of Barge Line Traffic

Commodity Groups. Five commodity classifications of carload freight are employed by the Interstate Commerce Commission in reporting statistics of general freight: products of agriculture; of mines; of forests; animals and animal products; and manufactured and miscellaneous products. "Less than carload" freight is reported separately.

Traffic statistics of the federal barge line, for the purposes of this analysis, have been grouped according to the above classification. It has been impossible to segregate less than carload shipments for all years, however, and consequently this group has been included in "manufactured and miscellaneous products" in the years for which it is available.²⁶

The changing relative importance of these major groupings of commodities is shown by Table VII and Chart VI. It is at once apparent that animal and forest products have been of negligible significance in the traffic of the federal

²⁵ *Annual Report*, 1930, p. 9.

²⁶ Less than carload barge line freight for 1928 and

1929 is segregated on Chart VIII below and in the accompanying discussion.

barge line, despite the importance of the latter in general river traffic.²⁷ The freight of the federal carrier is distributed principally among the manufactured, agricultural, and mineral products groups.

TABLE VII. VOLUME AND PERCENTAGE DISTRIBUTION OF FEDERAL BARGE LINE TRAFFIC BY COMMODITY GROUPS, LOWER MISSISSIPPI DIVISION, 1918-1930*

Year	Total	Products of Agriculture	Animal Products	Products of Mines	Products of Forests	Manufactured and Miscellaneous
		Volume (short tons)				
1918.....	23,378	20,704				2,674
1919.....	104,769	59,122	522	37	66	44,622
1920.....	160,702	106,101	1,870	3,592	1,110	47,939
1921.....	443,267	307,846	1,238	17,090	1,443	114,741
1922.....	599,669	254,237	10,619	7,481	4,300	323,023
1923.....	710,431	303,755	8,764	101,061	3,570	292,381
1924.....	849,503	304,906	8,648	187,884	2,788	355,277
1925.....	910,755	303,338	7,097	170,944	2,445	417,941
1926.....	1,044,640	297,811	3,992	150,318	4,093	587,695
1927.....	1,237,452	316,051	3,072	261,603	3,272	649,454
1928.....	1,435,160	436,471	359	360,733	3,890	634,117
1929.....	1,292,876	349,127	407	158,465	4,239	780,638
1930.....	1,149,864	377,753	813	75,060	4,000	711,329
		Percentage Distribution				
1918.....	100.0	88.6				11.4
1919.....	100.0	56.0	0.5	0.1	0.1	43.5
1920.....	100.0	66.1	1.2	2.3	0.7	29.8
1921.....	100.0	69.4	0.3	4.1	0.3	25.9
1922.....	100.0	42.4	1.8	1.3	0.7	53.8
1923.....	100.0	42.9	1.2	14.3	0.5	41.1
1924.....	100.0	34.8	1.0	22.1	0.3	41.8
1925.....	100.0	33.2	0.8	19.7	0.3	46.0
1926.....	100.0	28.5	0.4	14.4	0.3	56.2
1927.....	100.0	25.5	0.3	21.5	0.3	52.5
1928.....	100.0	30.4	+	25.1	0.3	44.2
1929.....	100.0	27.0	+	12.3	0.3	60.4
1930.....	100.0	31.1	+	6.6	0.4	61.9

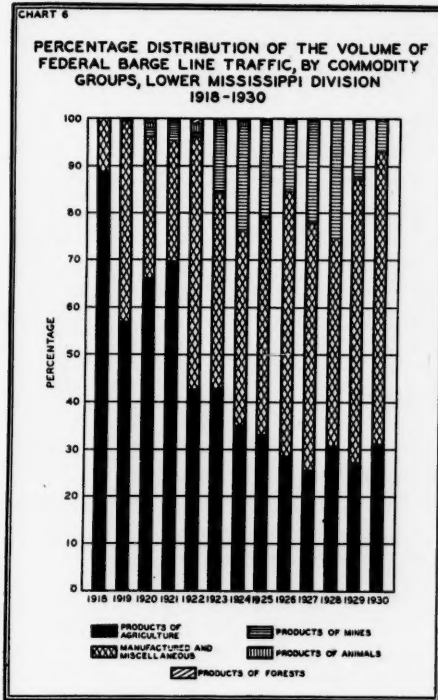
*Volume for 1918-1920 from *Transportation in the Mississippi and Ohio Valleys*, Transportation Series No. 2, Corps of Engineers, United States Army (Washington: Government Printing Office, 1920), p. 108. Volume for 1921-1930 compiled from *Annual Reports*, Inland Waterways Corporation, 1925-1930.

+Less than 1/10 of 1%.

The most important trend disclosed by these data is the rise of the relative significance of manufactured products from only 11% of all traffic in 1918 to a position of first importance since 1924. While the increased prominence of this group is caused in part by decreases in other commodity groups, notably minerals, this has by no means been the sole cause, as is shown by Table VII. The

²⁷ See first section of this article, 7 *Journal of Land & Public Utility Economics* 358 (November, 1931).

²⁸ *Ibid.*, pp. 363-5.



development is particularly interesting because manufactured products represent the greatest diversity of traffic and furnish, likewise, the greatest proportion of freight interchanged with railroads.²⁸ Furthermore, manufactured products are generally of higher value than are mineral and forest products.²⁹

The initial rise and the subsequent relative and absolute decline of mineral products is also outstanding. The federal carrier has not developed this type of business on its Mississippi division, except in the case of bauxite ore. This commodity disappeared from its traffic in 1929-1930 as a result of railroad competition.³⁰ In 1930 sulphur

²⁹ See below, p. 19.

³⁰ *Annual Report*, Inland Waterways Corporation, 1929, p. 7.

became a large item for the first time, partially offsetting the loss of bauxite ore.

Agricultural products, especially grains, might have been expected to play a larger part in barge line traffic than they have occupied during the later years of the record. There is some reason to believe that considerably more grain could have been carried if the barge line had wished to employ its tonnage in this way.³¹

On the upper Mississippi (between St. Louis and Minneapolis) barge line traffic is small, and of recent origin. It is composed almost entirely of manufactured and miscellaneous and agricultural products. Table VIII shows the amounts and percentage distributions of freight between these groups.

TABLE VIII. AMOUNT AND PERCENTAGE DISTRIBUTION OF BARGE LINE FREIGHT, UPPER MISSISSIPPI DIVISION, BY COMMODITY GROUPS, 1926-1930.*

Year	Amounts (short ton)			Percentage Distribution		
	Total	Products of Agriculture	Manufactured and Miscellaneous Products	Total	Products of Agriculture	Manufactured and Miscellaneous Products
1926..	995	995	0	100.0%	100.0%	0
1927..	14,061	7,201	6,770	100.0	51.9%	48.1
1928..	110,648	74,686	44,759	200	62.4	37.5
1929..	105,950	25,751	79,918	241	24.4	75.5
1930..	105,494	27,535	77,867	92	26.1	73.8

*Compiled from *Annual Reports*, Inland Waterways Corporation, 1926-1930.

Leading Commodities. Chart VII and Table IX throw additional light on the commodity character of barge line traffic by showing the rate of increase of selected commodities. Manufactured and miscellaneous products are represented by sugar, and iron and iron products.³²

³¹ See *Annual Report*, Inland Waterways Corporation, 1926, p. 22, for a statement that the barge line refuses to move grain except at its convenience. It is perhaps not merely coincidence that 1930 saw the disappearance of bauxite ore, and a considerable increase in grain carried.

³² Including bar, sheet, and structural steel, nails and

Bauxite ore, the principal mineral product, is shown, and grain³³ and cotton³⁴ have been selected from "agricultural products." It will be noticed that grain and bauxite ore are the only ones of these commodities which have not increased more rapidly than has the total commerce of the barge line. Reference has already been made to the decline of bauxite ore shipments in 1929, and their disappearance in 1930.

In addition to these selected items, sisal, coffee, and tobacco were agricultural products of considerable tonnage, while manufactured and miscellaneous products included a more diversified list. The following are additional commodities which in 1930 were carried by the lower division of the barge line in amounts greater than 5,000 tons:³⁵

Commodities	Short Tons
Sulphur.....	61,231
Canned goods.....	56,989
Bagging and bags, cotton, burlap, and cotton piece goods.....	35,258
Motor vehicles and parts.....	28,942
Agricultural implements and tractors	23,938
Merchandise*.....	21,268
Coffee.....	20,002
Tobacco.....	17,208
Sisal.....	16,009
Fertilizers and oyster shell.....	14,147
Edible syrups.....	13,531
Wood pulp.....	8,432
Sodium.....	8,412
Flat glass, tumblers and glasses.....	7,415
Beverages.....	6,607

*Less than carload freight.

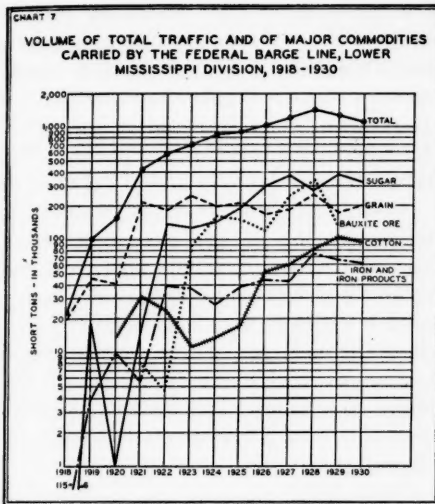
More composite groupings, including "iron and steel manufactures," "miscellaneous" manufactures, and "other ores and concentrates," have been omitted

unwoven wire, case and wrought iron pipe, iron and steel billets, pig iron, rails, and railway track material.

³³ Consisting principally of wheat and corn, with smaller quantities of rice, barley, rye, and oats.

³⁴ Including cotton linters.

³⁵ *Annual Report*, Inland Waterways Corporation, 1930, p. 37.



from this list. Other commodities, carried in amounts greater than 1,000 tons, in 1930 included: flour; dried fruits and vegetables; phosphate rock; chicle; machinery and boilers; concrete piling; furniture; alcohol; explosives and projectiles; paints and varnishes; wrapping paper and bags; prepared roofing and

building paper; baking powder and starch; cordage; matches; medicines and toilet preparations; paper and paper articles; radiators, stoves, and heaters; and stone, wood, and metal ware.

The mere recitation of commodities and commodity groups is sufficient to suggest a considerable diversity of freight, and to show that while many bulky, low-value products, such as lumber, coal, sand and gravel, are noticeable by their absence, other higher grade products, including motor vehicles, agricultural implements, and less than carload freight, occupy important positions in barge line traffic. However, a listing of commodities does not afford an adequate criterion for evaluating their comparative significance. A comparison of barge line with railroad freight will be useful in meeting this deficiency.

V. Comparison of Railroad and Barge Line Freight

The absence of adequate data makes impossible a complete comparison of the commodity characteristics of barge line

TABLE IX. VOLUME OF TOTAL TRAFFIC AND OF MAJOR COMMODITIES CARRIED BY THE FEDERAL BARGE LINE, LOWER MISSISSIPPI DIVISION, 1918-1930.*

Year	Volume (short tons)						Other Manufactured and Miscellaneous
	Total Traffic	Grain	Cotton	Bauxite Ore	Sugar	Iron and Iron Products	
1918.....	23,378	19,978	.....	.....	.6	115	2,553
1919.....	104,769	47,488	.....	.....	18,349	3,500	22,773
1920.....	160,702	40,569	13,884	.....	1,021	10,579	36,339
1921.....	443,267	215,790	32,661	8,307	16,202	5,623	92,916
1922.....	599,669	182,755	23,933	4,588	142,395	39,112	141,516
1923.....	710,431	247,886	11,651	86,013	127,512	37,574	127,295
1924.....	849,503	199,297	14,148	163,301	150,028	27,991	177,258
1925.....	910,755	215,978	18,253	152,493	192,574	39,612	185,755
1926.....	1,044,649	172,466	54,339	123,208	309,289	45,054	233,262
1927.....	1,237,452	187,680	61,253	244,844	376,323	43,582	229,549
1928.....	1,435,560	261,494	84,135	343,598	274,480	77,676	281,961
1929.....	1,292,876	173,600	106,971	136,928	392,676	67,893	320,074
1930.....	1,149,864	201,953	94,997	.....	332,319	62,636	316,374

*Volume for 1918-1920 from *Transportation in the Mississippi and Ohio Valleys*, Transportation Series No. 2, Corps of Engineers, United States Army (Washington: Government Printing Office, 1920), p. 198. Volume for 1921-1930 from *Annual Reports of the Inland Waterways Corporation*, 1925-1930.

with railroad freight. Nevertheless, several tests may be employed which together are believed to provide fairly satisfactory results.

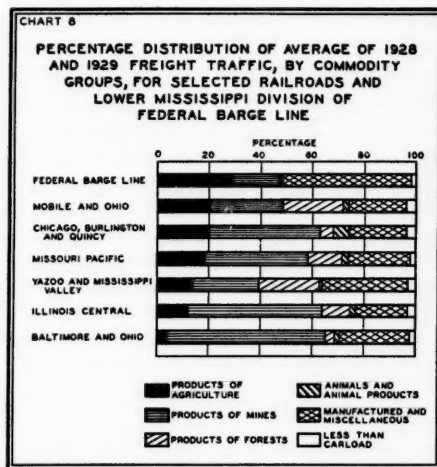
By Commodity Groups. The simplest and most direct comparison is that afforded by contrasting the tonnage significance of each major commodity group—agricultural, animal, forest, mineral, and manufactured products, and less than carload freight—in the traffic of the Inland Waterways Corporation and selected railroads.

Two problems are encountered in making such a comparison. The first is that of selecting a period of time, and the second, of choosing railroads suitable for purposes of comparison. The data here presented employ an average of 1928 and 1929. The former was the peak year in barge line traffic, the second a less satisfactory year, attributable partially to conditions of low water which obstructed navigation. The year 1930 was exceptional in railroad traffic because of the economic depression, which factor undoubtedly was also influential in preventing an increase in barge line traffic during that year. To project the comparison further into the past would be unsound, for it would tend to obscure the pronounced trends in barge line traffic already outlined.

Six railroads have been selected for the comparison, the Illinois Central, Yazoo and Mississippi Valley, Mobile and Ohio, Missouri Pacific, Chicago Burlington and Quincy, and the Baltimore and Ohio. The first runs parallel to the lower Mississippi, and connects New Orleans and Chicago via St. Louis, while the second parallels the lower portion of the River. The Mobile and Ohio operates chiefly between Mobile and St. Louis, with car haul rights to Memphis, and a connection with a subsidiary of its owner, the Southern Railway, to

New Orleans. The Missouri Pacific parallels the river on the west, between New Orleans and St. Louis, and serves territory from thence to the Rocky Mountains. The Burlington line operates north and west of St. Louis. The Baltimore and Ohio is added because of a two-fold relation to river traffic: it represents one of the east-west trunk lines which divert much north central traffic which formerly followed the valley to New Orleans and it generally parallels the Ohio River, serving the southern portion of the territory north of the Ohio. The Ohio River and the general area indicated are important sources of Mississippi traffic.

Chart VIII presents the distribution of traffic among the major commodity



groups for each railroad, and for the lower Mississippi division of the Inland Waterways Corporation. The most outstanding disclosure is the materially greater prominence of manufactured and miscellaneous products in the traffic of the latter carrier (Table X). This commodity group constitutes 50% of barge line traffic, more than twice its relative volume in the traffic of any

MISSISSIPPI RIVER TRAFFIC

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TABLE X. VOLUME AND PERCENTAGE DISTRIBUTION OF TRAFFIC BY COMMODITY GROUPS, LOWER MISSISSIPPI DIVISION OF FEDERAL BARGE LINE AND SELECTED RAILROADS; AVERAGE OF 1928-29.*

Carrier	Commodity Group					
	Products of Agriculture	Products of Mines	Products of Forests	Products of Animals	Manufactured and Miscellaneous	Less than Carload
	Volume (short tons)					
Federal Barge Line (Lower Mississippi Division)....	392,799	259,594	4,064	383	681,283	26,094
Baltimore & Ohio.....	4,377,677	64,608,821	4,481,096	1,279,459	29,318,839	2,092,601
Chicago, Burlington & Quincy.....	9,241,397	20,007,905	2,380,101	2,620,654	10,627,886	1,536,634
Illinois Central.....	6,549,571	27,415,887	5,767,152	1,195,848	10,699,360	1,573,123
Missouri Pacific.....	7,982,532	17,382,786	5,597,232	1,116,121	10,381,685	887,799
Mobile & Ohio.....	1,322,639	1,867,525	1,545,289	130,678	1,477,756	231,831
Yazoo & Mississippi Valley.....	1,751,856	3,253,298	2,934,617	132,820	4,200,391	373,871
	Percentage Distribution					
Federal Barge Line (Lower Mississippi Division)....	28.8	19.0	0.3	†	50.0	1.9
Baltimore & Ohio.....	4.1	60.9	4.2	1.2	27.6	2.0
Chicago, Burlington & Quincy.....	19.9	43.1	5.1	5.7	22.9	3.3
Illinois Central.....	12.4	51.5	10.8	2.2	20.1	3.0
Missouri Pacific.....	18.4	40.1	12.9	2.6	23.9	2.1
Mobile & Ohio.....	20.1	28.4	23.5	2.0	22.5	3.5
Yazoo & Mississippi Valley.....	13.9	25.7	23.2	1.1	33.2	2.9

*Barge line traffic compiled from *Annual Reports of the Inland Waterways Corporation*, 1928 and 1929. Railroad traffic compiled from *Moody's Manual of Investments, Railroad Securities*, 1929 and 1930.

†Less than 1/10 of 1%.

railroad other than the Baltimore and Ohio and the Yazoo and Mississippi Valley, where it accounts for 27.6% and 33.2%, respectively, of the traffic of these roads consisting of manufactured and miscellaneous products. The Illinois Central reports the lowest proportion (20.1%) of manufactured and miscellaneous products. The contrast between the barge line and the railroads is interesting in view of the diverse character of products in this group, and their less bulky, comparatively high-value, characteristics.

The showing of the barge line would be less pronounced if it were not for the large tonnage of sugar. That commodity in 1928 and 1929 amounted to 49% of the traffic of the river carrier in

"manufactured and miscellaneous" freight. Even with sugar omitted, this class of freight occupies a more significant position in barge line traffic than in that of the railroads other than the Baltimore and Ohio and the Yazoo and Mississippi Valley.

A second significant situation disclosed by Chart VIII is the relatively greater importance of agricultural products in barge line traffic. The proportion of agricultural to total barge line freight was 28.8%, while in that of the railroads it varied from 4.1% on the Baltimore and Ohio to 20.1% on the Mobile and Ohio. In the case of both the railroads and the barge line, grain was generally the largest item. The railroads, however, carried quantities of

flour and fruits and vegetables, products largely absent from Inland Waterways Corporation freight.

Practically no animal or forest products appear in the barge line's commerce. Forest products, chiefly lumber and logs, ranged from 4.2 to 23.5% of railroad traffic, while animal products varied from 1.1 to 5.7% of total revenue freight.

Products of mines occupied a relatively smaller position in barge line than in railroad traffic. The proportion of this group in railroad shipments ranged from 28.4% on the Mobile and Ohio to 60.9% on the Baltimore and Ohio, although it accounted for but 19% of barge line tonnage. This proportion declined still further in 1930, as is shown on Chart VI.

The concentration of railroad traffic in a few bulky mineral products is marked. In the case of the Baltimore and Ohio nearly one-half of all its commerce is in bituminous coal. Between 10 and 15% of the total freight of all but one railroad is accounted for by sand, gravel, and rough and crushed stone. The detailed record is presented in Table XI.

Lastly, it may be noted that less than carload freight, which ordinarily consists largely of merchandise, occupies a position in barge line freight not materially less than in certain railroads in the group. Constituting 1.9% of Inland Waterways Corporation shipments, this group ranges in importance from 2% on the Baltimore and Ohio to 3.5% on the Mobile and Ohio.

Significance of Commodity Groups. The significance of the relative prominence of these major commodity groups

in the traffic of the various carriers is in part clear without further examination. Products of mines and of forests obviously are of lower value per ton, and are more bulky, than are the other groups.

TABLE XI. PERCENTAGE OF LEADING MINERAL PRODUCTS TO TOTAL MINERAL PRODUCTS, AND TO ALL FREIGHT, SELECTED RAILROADS, 1928.*

Railroad	Bituminous Coal		Sand, Gravel, and Stone		All Other Mineral Products	
	Percentage of Mineral Products	Percentage of All Freight	Percentage of Mineral Products	Percentage of All Freight	Percentage of Mineral Products	Percentage of All Freight
Mobile & Ohio...	38.7%	11.4%	47.0%	13.9%	14.3%	4.2%
C. B. & Q.	64.3	26.9	23.9	10.0	11.8	4.9
Mo. Pacific	46.8	18.3	32.4	12.7	20.8	8.1
Ill. Central	72.2	37.6	19.9	10.4	7.9	4.1
Balt. & Ohio	73.2	44.4	7.2	4.4	19.6	11.9
Yazoo & Mis. Val.	22.8	6.0	55.0	14.4	22.2	5.8

*Compiled from Freight Commodity Statistics, Class I Steam Railways, issued by Interstate Commerce Commission (Washington: Government Printing Office, 1929).

Here barge line freight either is absent or is relatively less than in the case of railroads. The character of products in the other groups is less clear. To describe a ton of freight as a "manufactured product," for example, does not tell us whether it is a low-value commodity, such as brick, or a higher grade product.

Two further tests have been made, therefore, one to throw additional light upon the significance of the several commodity groups, the other to test the internal characteristics of each group in the traffic of each type of carrier.

A recent Interstate Commerce Commission study³⁶ presents statistics showing the average value per ton of each commodity group in the traffic of all Class I railroads.³⁷ The comparative

2-3 of the study, as follows: "The value of the commodity is based on wholesale prices obtained from various sources and relating as nearly as practicable to the close of the year 1928. Where a commodity class (within the major groups) contains two or more articles, an

(Footnote 37 continued on page 19)

³⁶ Freight Revenue and Value of Commodities Transported on Class I Steam Railways in the United States, 1928. Interstate Commerce Commission, Stats. No. 29111, Washington.

³⁷ The method of collecting data is described on pp.

position of the groups is shown in Table XII, which also presents average freight revenue per ton, as of interest from the standpoint of transport revenues.

TABLE XII. AVERAGE VALUE AT DESTINATION, AND FREIGHT REVENUE PER TON, OF FREIGHT TRANSPORTED BY CLASS I RAILROADS IN THE UNITED STATES BY COMMODITY GROUPS, 1928.*

Commodity Group	Average Value per Ton	Average Revenue per Ton
Animals and products.....	\$323.52	\$ 9.47
Less than carload freight....	200.00	13.87
Manufactured and miscellaneous products.....	115.83	5.26
Products of agriculture.....	62.48	6.26
Products of forests.....	29.00	3.75
Products of mines.....	8.98	1.91
All products.....	53.08	3.76

*Compiled from *Freight Revenue and Value of Commodities Transported on Class I Steam Railways in the United States, 1928, op. cit.*

It has already been demonstrated that manufactured and agricultural products, which rank third and fourth, respectively, among the commodity groups with respect to value per ton, are outstanding in barge line freight. These two groups in 1929 accounted for 87.4%, and in 1930, 93%, of all tonnage carried by the lower Mississippi division of that organization. In railroad freight these commodities, while important, by no means dominate the situation. The traffic of the barge line lags somewhat behind that of the railroads in less than carload freight, the second most valuable commodity group, and is almost totally lacking in animal products, which stands first in value. Each of the two groups last named, however, is carried by the railroads in comparatively small amounts; in 1928-29 they ranged from

2% to 3.5%, and from 1.1% to 5.7%, respectively, in the traffic of the six railroads whose traffic has been compared with that of the barge line.³⁸

The barge line carries practically no forest products, which are of considerable importance in railroad tonnage despite the fact that they are next to the lowest group in value per ton. Mineral products, with a value of less than \$9 per ton, bulk large in railroad traffic, accounting in 1928-29 for from 25.7% to 60.9% of the tonnage of the selected carriers by rail.³⁹ In barge line traffic during the same years this group averaged less than 20% of all freight.

If we multiply the commodity group values previously quoted⁴⁰ by the tonnage of each commodity group in the traffic of the several carriers, summate the results and divide by total tonnage of each carrier, the following weighted average values per ton are obtained:

Carrier	Weighted Average Value per Ton
Inland Waterways Corporation*.....	\$81.55
Baltimore & Ohio.....	49.10
Chicago, Burlington & Quincy.....	69.21
Illinois Central.....	51.94
Missouri Pacific.....	59.02
Mobile and Ohio.....	61.44
Yazoo and Mississippi Valley.....	65.47

*Lower Mississippi division.

The higher average value attributed to the freight of the Inland Waterways Corporation is interesting as a demonstration of the effect of the relative absence of low-value mineral and forest products from its traffic. The influence of these important tonnage groups is more than sufficient to offset the

to get the total value for the class. It is obvious that such a total is exaggerated to the extent that there is duplication in the reports of tons originated . . ."

³⁸ See Table X, above.

³⁹ *Ibid.*

⁴⁰ Table XII above.

(Footnote 37 continued from page 18)

unweighted average or estimate had to be used. Where the price used referred to point of production, the average freight revenue per ton for the class was added so that value at destination might be uniformly obtained. The price per ton was multiplied by the number of tons reported by the railways as originated in each class

deficiencies of the water carrier in higher value animal and less than carload products. It must be recognized, however, that averages may be misleading in the general impression conveyed, unless they are supplemented by more detailed examinations of various portions of the field covered.

In order to compare the character of railroad and barge line freight more thoroughly, it is desirable to obtain as accurate a measure as possible of the internal composition of the more important commodity groups. This is less essential in the case of mineral and forest products; each is of low average value, is not of a particularly diversified character, and only the former is of any significance in the shipments carried by the Inland Waterways Corporation. Animal products are of small railroad tonnage importance and are insignificant in barge line traffic. Data do not permit more detailed analysis of less than carload freight, which is also of slight volume significance. Accordingly, further analysis has been limited to manufactured and to agricultural products. These groups are carried in large volume by both classes of carriers, are of higher than average value and, particularly in the case of manufactured products, are so diverse in character as to make further examination of their composition desirable. The analysis has been further restricted to the barge line and to those three of the original six railroads which are nearest it.

Railroad statistics contain 62 subdivisions of "manufactured and miscellaneous" products, and 42 such groups of agricultural products. An average of the 1928-29 tonnage of each sub-group has

⁴¹ The values are for the United States at large, rather than for the territory in question. This is not a serious inaccuracy, however, for the question at issue involves relative, rather than absolute, values.

been multiplied by the value data for 1928, the latest year for which statistics are available.⁴¹ By summing the results and dividing by the total tonnage of each of the two major commodity groups, a weighted average value per ton has been secured for each group. These are presented in Table XIII, along with comparable statistics for agricultural and manufactured products in barge line traffic.

TABLE XIII. WEIGHTED AVERAGE VALUE PER TON OF AGRICULTURAL AND MANUFACTURED SELECTED AND MISCELLANEOUS PRODUCTS, RAILROADS AND LOWER MISSISSIPPI DIVISION, FEDERAL BARGE LINE, 1928-29.*

Carrier	Average Value per Ton	
	Products of Agriculture	Manufactured and Miscellaneous Products
Federal Barge Line†	\$144.46	\$142.89
Illinois Central	258.57	142.97
Yazoo & Mississippi Valley	109.97	75.38
Mobile & Ohio	69.13	97.98

*Railroad tonnage data, an average of 1928 and 1929, are taken from *Freight Commodity Statistics of Class I Railways*, issued annually by the Interstate Commerce Commission. Barge line statistics are from the *Annual Reports of the Inland Waterways Corporation*. Value data are from *Freight Revenue and Value of Commodities* . . . 1928, compiled by the Interstate Commerce Commission.

†Barge line averages are based on the 87% of its manufactured, and the 85% of its agricultural tonnage which could be allocated or identified with the railroad classifications used in the presentation of the value statistics referred to above.

Barge line traffic statistics, while they are reported by classifications which are not always identical with those employed for the railroads, are nevertheless set up in a manner substantially comparable. It has been possible, therefore, to include 87% of the manufactured and miscellaneous and 85% of the agricultural products of the lower Mississippi division of the barge line in classifications corresponding to those of railroad freight.⁴² These waterway sub-groups have been multiplied by the 1928

⁴² Beginning in 1929 the barge line has been required to classify its traffic statistics reported to the Interstate
(Footnote 42 continued on page 21)

value data reported for the comparable railroad sub-groups, and a weighted average value per ton for each of the two major commodity groups computed for the traffic of the Inland Waterways Corporation. While the value per ton arrived at is based upon a sample of the major commodity groups, there is ample reason to believe that the barge line commodities excluded by the process of identification would, if inclusion were possible, raise rather than lower the average value per ton of the major commodity groups to which they belong.

In the case both of the railroads and the barge line it must be recognized, of course, that precise comparability cannot be achieved. Any classification of all manufactured products, for example, must necessarily place together commodities of different characteristics. Thus, such groups as "automobiles and parts," "agricultural implements," "metal furniture," etc., are themselves composites of somewhat dissimilar items.

The results disclosed by Table XIII are, on the whole, quite favorable to the Inland Waterways Corporation. In the case of manufactured products its commerce has a value per ton approximately that of the Illinois Central, and materially larger than that of the two other railroads. In agricultural products the value of barge line freight falls below that of the Illinois Central

but is much above the showing of the other two carriers. It is interesting to note that the average per ton value of the barge line's agricultural traffic (\$144.46) is more than twice that reported for all Class I railroads (Table XII), while that of its manufactured products (\$142.89) is materially larger than the figure (\$115.83) shown for all railroads.

The comparatively high average value of manufactured products in barge line freight might be caused by a concentration of moderately priced goods, with an absence of both extremely cheap and extremely valuable commodities. A more detailed examination, however, shows that such is not the case. Of the eight commodity sub-groups⁴³ with a value per ton of \$500 or more, only one, tobacco manufactures, does not appear to have been carried by the lower Mississippi division of the barge line in 1928-29. Four of the eight, on the other hand, were of considerable importance in its traffic.⁴⁴ Of the 24 sub-groups with a value of \$200 or more per ton, only three are not listed in barge line freight, while 11 were important articles of traffic.⁴⁵

Conclusion

Recent developments in Mississippi River and federal barge line traffic cast serious doubt upon the validity of a commonly accepted assumption

modities because it is believed unfair to assign the railroad value of \$200 per ton for this group to so diverse an assortment of freight, although to do so would increase the average value of barge line "manufactured and miscellaneous" products. A similar group has been omitted from the estimation of the average value of barge line agricultural products.

⁴³ Out of a total of 62 such sub-groups.

⁴⁴ Commodities carried in amounts of more than 1000 tons annually, in view of the small aggregate tonnage of the barge line, may be considered "important" items of traffic.

⁴⁵ Value data from Interstate Commerce Commission study, *op. cit.*; tonnage data from *Annual Report*, Inland Waterways Corporation, 1929.

(Footnote 48 continued from page 20)

Commerce Commission according to the same classification followed by the railroads. Although these statistics are reported as aggregates of the traffic of the Warrior River, and both the upper and lower Mississippi divisions of the Inland Waterways Corporation, they have been helpful in identifying, by railroad traffic classifications, the tonnages of barge line commodities published for 1928-29. The tonnages not included in the computations in Table XIII for the most part belong to the group termed "manufactures and miscellaneous, N. O. S." (not otherwise specified), in Commission statistics. These have been omitted from the sample used in estimating the average value of barge line com-

concerning inland waterways. The freight traffic of the Mississippi, and especially that of the Inland Waterways Corporation, is of a grade substantially comparable with that carried by railroads. The federal barge line, largely as a result of deliberate policy, has developed a diversified traffic which, by tests available, consists of freight that somewhat exceeds the average of railroad freight in value per ton. A surprising variety of manufactured products are important in the commerce of the river carrier.

This does not mean, of course, that the barge line has demonstrated its ability to compete successfully for all classes of freight. Certain articles of a perishable character, as well as others of a sort which would ordinarily move by express or parcel post, are absent from its traffic.⁴⁶

The high average value of barge line as compared with railroad freight is not attributable, however, simply to a concentration of "average" value commodities with an absence of either extremely high or very low value products. On the contrary, an examination of the composition of the averages presented disclosed a considerable proportion of high-value commodities, such as automobiles and trucks, machinery, explosives, and canned foods.

The results of this survey suggest far greater traffic potentialities for inland waterway carriers than are ordinarily supposed to exist. The results are not advanced, however, as conclusive evidence of the ability of inland water carriers generally to transport the same grades of freight that are carried by rail, air, or motor carriers. Certain considerations should be recognized. First,

the present survey has been restricted to an examination of the traffic of one river, and to a detailed analysis of the freight transported by one common carrier on that river, an organization which carries a tonnage almost insignificant in comparison with that of large railroads. Whether this carrier will be able further to extend its service along present lines, and whether similar developments may take place on other inland waterways, are matters outside the scope of this discussion.⁴⁷ Second, as suggested above, certain products, of very high value or perishable character, and of very low value, were found to be absent from barge line traffic. The low revenue qualities of the latter have led to their rejection by the barge line, while perishability and other characteristics of the former have thus far prevented their inclusion in its commerce. Third, the traffic statistics available are not adequate to allow precise comparisons to be drawn between railroad and Inland Waterways Corporation freight. It has been impossible to break down the various commodity groups sufficiently to permit other than tentative conclusions to be drawn.

Why and how the federal barge line has been able to develop the quality of traffic it now carries is beyond the scope of this article. The subject is so interesting, however, that certain general factors may be suggested without attempting to develop them fully or to support their validity: (1) The use of all steel equipment, including closed cargo barges and more efficient propelling units, has been important in reducing risks of loss and damage, and in effecting more rapid and dependable service. (2) Similar results

⁴⁶ Statistics are not sufficiently detailed to make this more than an assumption with respect to the non-perishable group of articles referred to.

⁴⁷ For a survey of the characteristics of recent New

York Canal traffic, see Sumner, John D., *New York Barge Canal Traffic*, (Buffalo: University of Buffalo Studies in Business, No. 2, University of Buffalo Bureau of Business and Social Research, 1929).

have been secured from the construction of modern terminals during the period surveyed, and the installation of mechanical handling devices. (3) The Inland Waterways Corporation has provided a more adequate business organization than has been possessed by a Mississippi River common carrier for many years. It has maintained traffic solicitation offices in various important cities, has pressed the establishment of joint routes and rates with railroads, has absorbed the costs of insurance of freight transported, and has been financially responsible. (4) Congressional legislation has provided a basis upon which the Interstate Commerce Commission has established joint routes and through rates between railroad and inland waterway carriers, that have enabled the barge line to bid for traffic from which it would ordinarily be barred. Such traffic has included a large proportion of relatively high grade freight. (5) Finally, the facilities and rates⁴⁸ offered by the Inland Waterways Corporation have provided a service which brings to it a traffic which cuts across commodity lines, and depends rather upon marketing considerations such as the importance of time in transit, and the distribution practices of different industries and business concerns.

⁴⁸ Inland Waterways Corporation charges have in general been 20% lower than corresponding all-rail rates.

While to some extent it may be possible to describe the fields of various types of transport in terms of the kinds of commodities adapted to their respective services, that sort of analysis has been applied in the past beyond its usefulness. It is necessary to recognize more fully that in the different shipments of a given commodity, the degree of speed necessary varies widely and may lead to its moving by air, motor, railroad, or inland waterway, as circumstances warrant. Likewise, large consignments of a commodity may be adapted to inland waterway transport while smaller shipments are not. In the former case, the practice of concerns to maintain inventories at various distribution points may lead to waterway shipments, whereas through shipments from factory to consignee would be moved by railroad. Furthermore, the market area of a product is restricted by transportation costs, a factor which may lead shippers to resort to water carriers in order to extend the geographic and economic margins of their operations. In this connection the emphasis upon lowering distribution costs should be most effective in inducing shippers to avail themselves of lower barge line rates.

In the case of rail-barge shipments this 20% differential has applied only to the barge line portion of the haul.

Commission Regulation of Public Utility Merger and Consolidation in Connecticut¹

By CLYDE OLIN FISHER

Enabling Legislation

STATUTORY recognition of the importance of public utility merger and consolidation² has come only recently in Connecticut, for the original public utility act adopted by Connecticut in 1911 contained no provision concerning consolidation. Changing events, however, soon revealed this defect in the statute and the Public Utilities Commission in its annual report for 1912 asked the Legislature to enact a law prohibiting all mergers and consolidations of public utility companies without prior approval by the Commission.³ This recommendation seems to have been somewhat in advance of the crystallization of public opinion. Legislative response to the request came rather feebly in the enactment of a law⁴ requiring that any public service company should, within 10 days after its formation, give to the Public Utilities Commission notice of the formation or discontinuance of business or the effecting of a merger. A fine was imposed for failure to give the required notice. In 1915 the Commission was given real power in the field of mergers by the passage of a law to the effect⁵ that no public service corporation could merge, consolidate or "make common stock" with another company or sell any part of its essential property without a hearing before and approval by the Public Utilities Commission. In

1917 the act of 1913 was amended⁶ so as to require notice to the Commission within 10 days if any foreign public service corporation acquired property or began doing business within the State; also to give notice of any change in corporate name. In its annual report for 1916 the Commission had recommended this change.⁷ Since 1917 no additional legislation has been enacted with reference to the Commission's powers over mergers and consolidations. Since that date this movement has assumed gigantic proportions in some types of utilities.

With respect to jurisdiction over consolidation and merger of public service corporations Connecticut takes its place among the few states which have such regulatory steps. In 1930 every state of the Union, except Delaware and including the District of Columbia and three territorial possessions (Hawaii, the Philippines, and Porto Rico) had some sort of regulating commission for public service corporations. Yet only 22 of these commissions had jurisdiction of consolidations and mergers of public utility corporations.⁸

Extent of Commission Activity

From one point of view it seems that the authority of the Connecticut Public Utilities Commission over mergers and consolidations has not had a

¹ This paper is a part of a larger study made possible by a grant-in-aid from the Social Science Research Council.

² As the terms are used in this paper, merger and consolidation refer to the combination into one unit of two or more companies having a separate legal existence.

³ Report Conn. P. U. Com. 1912, pp. xxiv-xxv.

⁴ Gen. Stat. 1913, c. 192.

⁵ *Ibid.* 1915, c. 178.

⁶ *Ibid.* 1917, c. 192.

⁷ Report Conn. P. U. Com. 1916, p. 4.

⁸ Bonbright & Company, *State Laws on Public Utility Regulation in the United States*, 1930, p. 16.

material effect on such combinations, either by way of encouraging or discouraging them. An examination of more than 60 cases before the Commission does not disclose one in which the merger or consolidation has been prevented by Commission action, and in only a few cases did the Commission modify the terms of the merger as proposed by the companies. The chairman of the Commission, who has been a member from the time of its creation to the present day, when asked if any merger or consolidation had ever been prevented by the Commission, replied in the negative. Not only has the Commission never denied a petition for merger, but until 1927 it had never required any writing down of the capitalization suggested by the merging companies. This does not prove that the legislation conferring authority upon the Commission was useless; it is conceivable that applicants for consolidation may have been more careful in making their plans because they knew that approval was required.

In July, 1927, for the first time,⁹ the Commission indicated that it would give greater consideration to the capitalization of consolidated companies. The Eastern Connecticut Power Company proposed to absorb three smaller companies and the Commission felt that it was relevant to note, in approving the petitions that,

"From these balance sheets it appears that the capitalization of the Eastern Connecticut Power Company after the proposed merger will be materially less than the present total capitalization of the petitioning companies."

Although the case involved the purchase of property of one company by another, or the segregation of property in another company as such, rather than a merger, the Commission required a

modification of capital stock in a decision of October, 1927.¹⁰ At the suggestion of the Commission the interested parties agreed that the sale price of the traction property of the Bristol and Plainville Electric Company to the Bristol Traction Company be \$750,000, the value placed on the company by the Commission, rather than \$1,000,000 of stock of the latter company as requested. Thus, a reduction of 25% was effected in the capitalization of the new corporation.

Finally, even though the law does not confer upon the Commission of Connecticut any jurisdiction over security issues of public utilities, in a decision in November, 1927 the Commission indicated a complete change of policy in making its approval of a merger contingent upon a writing down of the purchase price and the capitalization of the consolidated company¹¹ by an amount of more than \$400,000. The petitioning company had proposed to issue to the stockholders of the Bristol and Plainville Electric Company and of the Middletown Gas Light and Power Company, the two companies to be acquired, stock to the amount of \$4,256,000. The Commission suggested that this amount be reduced to \$3,850,000. This case was decided 12 years after the legislation requiring approval of mergers. It is true that the issue of securities in this case arose because the payment to be made for the companies acquired consisted of stock rather than cash. The two companies claimed values aggregating \$4,245,000, a sum in excess of what the Commission considered valid as a basis for capitalization in the consolidated company. Since the Commission had not attached so much significance to the capital structure of merged

⁹ Doc. No. 4940.

¹⁰ Doc. No. 4975.

¹¹ Doc. No. 4992.

companies before 1927, this naturally suggests the question as to whether there may have been excess capitalization in some of the consolidations in the intervening 12 years.

In earlier cases the Commission had indicated that in its approval for the proposed combinations it did not validate the capitalization for rate-making purposes. In the instance cited, therefore, a new departure seems to have been made and the Commission gave a broader interpretation to its responsibilities in passing judgment upon mergers. Obviously, one important factor in the policy of the Commission in not stipulating a reduced capital of consolidated companies has been the general advance of prices from 1915, the date on which jurisdiction was given the Commission, until very recently. In such a situation, if any consideration be given cost of reproduction as a basis of capitalization, it was quite easy for the utilities to justify the capitalization proposed for the consolidated corporations.

Some connection may have existed between the policy of the Commission in requiring a reduction of the capitalization in the above cases and its increasing anxiety over the tendency of Connecticut utilities to come under the control of outside interests. In 1926 the Commission said:¹²

"The economic advantages of consolidation and unified operation of several inter-connecting companies under one management are in most cases apparent, but the growing tendency of having our Connecticut utilities and jitney or motor bus business as authorized by this Commission become subject to financial and managerial control of outside parties or foreign interests reflects unfavorably upon the progressive spirit of the State."

"The utilities of New England . . . are given special rights . . . and we believe that

there should be and is sufficient capital and executive ability in New England to take care of a purely local or home industry, vital to its inhabitants, without going outside for controlling capital or executive management."

In the light of this general policy as enunciated in 1926, it is interesting to observe that the petition of 1927, the first year in which the Commission had insisted upon a modification of the value of assets and hence of the capital structure of the consolidated company, involved the Connecticut Light and Power Company, itself the product of many consolidations. The Commission in 1917¹³ had said the Rocky River Company, later the Connecticut Light and Power Company, was a subsidiary of the United Gas Improvement Company of Philadelphia. This company, then, was a member of the United Gas Improvement "community of interests." No evidence indicates that the Commission's concern over the increasing movement toward the domination of public utilities by outside holding companies has checked the tendency appreciably.

Capital Structure and Rates

The general attitude of the Connecticut Commission toward capital structure and purchase price of new companies acquired in mergers and consolidations seems to have been indicated by a member of the Commission who has served since 1917 and has this year (1931) been reappointed for a term ending in 1937. Upon being asked by the writer if the Commission did not feel itself handicapped by lack of jurisdiction over security issues, he replied that if any outside group came into Connecticut and acted so foolishly as to pay an exorbitant price for the companies acquired, they had only themselves to blame; the Commission had an accurate

¹² Report Conn. P. U. Com. 1926, pp. 3-4.

¹³ Doc. No. 2423.

knowledge of all that has been invested (original cost) in these companies from the date of their formation and it refused to permit a higher rate simply because the purchaser had paid too much for his acquisition. That this is a very sweeping generalization is clear when it is recalled that many of the utilities came into existence before the Public Utilities Commission was created by legislative act in 1911. Also, it rather taxes the imagination to see how the auditing department of the Commission can be expected to check all investments made in the operating companies. The entire appropriation for the work of the Commission at the present time is only \$70,000 a year. With so meager a sum of money the Commission cannot be expected to do all the things required of it by law and at the same time have an adequate staff in its accounting and auditing department. This department even now has only two members.

Further, it is doubtful whether the Commission would be able to resist the plea for higher rates to support the market value of securities of a company if receivership were the only alternative. Some evidence that this is the view of the Commission is found in the usual comment in decisions approving mergers, to the effect that approval was not thereby given to the proposed capitalization for rate-making purposes. It is to be noted, however, that in at least one important consolidation to be discussed later, the Commission did not have an accurate record of the money invested.¹⁴

The above interpretation of the relation of capitalization and rates loses much of its validity since most rates in Connecticut are so-called "company-rates" rather than Commission-made rates. Relatively few of the rates for service by gas and electric companies in

this State have ever received Commission sanction. The Commission has no authority to take the initiative in rate matters and does not hold a hearing until a situation becomes so acute as to lead to a protest and petition by customers. In spite of the human inertia which prevents the registering of complaints by a number of customers, there is in such cases the possibility of the piling of one rate straw upon another until the final one breaks the camel's back and precipitates action. More likely, the passive policy of the Commission does not cause a positive increase in rates but it results in a failure to reduce rates so as to reflect technological changes and the economies of large-scale production. No necessary identity exists between the best monopoly price, from the point of view of the industry, and a low price even in cases of production under conditions of decreasing cost with enlarged output. Furthermore, the maze of holding company wheels within wheels offers a splendid means whereby the companies can conceal from the uninitiated consumer the real value of the property and hence the validity of a given rate. A request for review of rates by customers presupposes not only a degree of knowledge adequate to provoke complaint but a feeling on the part of particular patrons that the burden of high rates is sufficient to make it worth their while, as individuals, to fight the prevailing rates. A domestic consumer may well conclude, in paying \$10 per month rather than \$9, that the possible reduction is not sufficient to repay him for the effort of getting a change, despite the fact that he believes himself overcharged. In short, no real justification appears for the Commission's failure to insist upon obtaining jurisdiction over security issues.

¹⁴ *Infra*, pp. 30-1.

Although the Commission may not institute rate cases excepting upon complaint of 10 or more customers, or of governmental officials, it is only fair to add that in an informal way the Commission does concern itself with rate-structures. In this manner many issues which might arise by complaint of customers are settled by negotiation and conference and never reach the stage requiring formal action and decisions. The general policy of the gas and electric companies is to settle complaints informally wherever possible and thus to prevent a Commission rate which can be modified only with the approval of the Commission. Furthermore, with reference to Commission initiative, it is argued that the ease with which a customer can secure the signature of nine others makes it easy in fact, if not in appearance, to start proceedings and to compel the company to prove that the rates are "reasonable."

More frequently than otherwise, in expressing approval of mergers, the Commission has indicated that it has found the statements in the petitions correct and that "no opposition appeared" to the consummation of the end requested. Perhaps there is justification for attaching some importance to the failure of the public to appear and object to consolidations. Emphasis upon this feature of the hearings, however, can easily be carried too far. Favorable action by virtue of the absence of opposition presupposes the existence on the part of the public of an awareness of the problems and the possession of a technical knowledge which would serve as an adequate basis for protest. More likely, when a merger petition is filed, public sentiment is not yet sufficiently crystallized and economic knowledge not so adequately disseminated as to lend much significance to the failure of op-

position to appear. Nor is it always true that the evil seems such as to justify the cost and trouble involved in the protest on the part of such patrons as do regard the proposed combination unfavorably.

Again, too much emphasis on the lack of opposing appearances would suggest that the Commission regards itself primarily as a court of equity to weigh the evidence presented to it and to arrive at decisions on the basis of the presentations made by interested parties. A more generous and probably more correct interpretation would be that the lack of opposition is mentioned as a matter of legal record rather than as a reason for the disposition of the Commission to decline responsibility for protecting the public from its own lethargy, founded as it frequently is upon inadequate knowledge. Even in those cases where no opposition appeared, the records show that the Commission has inquired into the capital structure before permitting mergers—and this in spite of any criticism that may be made concerning the validity of the conclusions reached. The Federal Power investigation, to be discussed later, indicates that the Commission does not have adequate facilities for getting all the facts, even when called for. But it is easy to see how any Commission denied, as is the Connecticut Commission, the powers of initiative in rate matters, over which it is given jurisdiction, should inevitably tend to emphasize its judicial functions. The real defect, then, lies in the inability of the Commission to assume the initiative; apparently the Commission does not desire legislation conferring such powers and responsibilities upon it.

Opposition to Mergers

In the relatively few cases of opposition to consolidation the Commission

has overruled it and decided in favor of the petitioners. Two instances will be cited. In 1926 the Connecticut River Company, the Northern Connecticut Light and Power Company, Thompsonville Water Company, Stafford Springs Aqueduct Company, the Northern Connecticut Power Company and the Somers Electric Company made a joint petition for merger under the name of the Northern Connecticut Power Company.¹⁵ In this case a unified ownership of stock in the constituent companies had already grown up in large measure and merger was requested as a means of more economical and efficient management through a single board of directors.

Opposition to the proposal was made by Mr. Samuel Ferguson, president of the Hartford Electric Light Company. The latter company in turn controlled the Connecticut Power Company and other important utility properties. Because of his own contacts and experience Mr. Ferguson was in a position to base his opposition upon an analysis of the set-up before and following the proposed merger. As an owner of 10 shares of stock in the Thompsonville Water Company he objected on the grounds that

"the merger of the Connecticut River Company with the other utility companies would be in the nature of a speculation which should not be assumed by or imposed upon the operating utility companies. He claimed that the gross corporate income of the Connecticut River Company of approximately \$60,000 was entirely out of proportion to its capitalization which at the present time is \$1,000,000 but which he estimates as \$1,750,000 as its part of the capitalization of the consolidated company . . . the public would have to pay the cost of acquiring the property and the promoters none, although retaining the common stock and control of the company."¹⁶

¹⁵ Doc. No. 4656.

¹⁶ *Ibid.*, p. 12.

The Commission saw fit to sanction the consolidation notwithstanding Mr. Ferguson's protest, although it did qualify its approval of the merger as to any rate cases that might arise subsequently.

That the speculation in the above case has amply fulfilled the optimistic forecast of the promoters is shown by an examination of the finances of the consolidated company in December, 1929. At that time the balance sheet of the company, summarizing numerous items, was as follows:¹⁷

Assets	
Fixed Capital.....	\$4,358,316.58
Other Assets.....	607,039.54
Total.....	\$4,965,356.12
Liabilities	
Capital Stock.....	\$ 456,142.67
Long-term Debt.....	2,475,000.00
Notes Payable.....	1,260,000.00
Other Liabilities.....	774,213.45
Total.....	\$4,965,356.12

Gross corporate income was \$309,668.96, \$159,593.23 of which was deducted as interest on long-term debt, miscellaneous interest, and amortization of debt discount and expense, leaving \$150,075.73 net available for the profit account for preferred and common stock.¹⁸ From this net of \$150,075.73 for the year, \$54,034.51 was deducted to pay dividends on and liquidation of preferred stock.¹⁹ This left \$96,041.21 available as earnings on \$444,565, the total outstanding common stock. The discrepancy between this figure and that for capital stock in the balance sheet arises from the fact that the balance sheet includes preferred stock which was then being paid off. This return was 21.6% + on the investment value of the common stock as appraised

¹⁷ Report Conn. P. U. Com. 1930, pp. 213-216.

¹⁸ *Ibid.*

¹⁹ *Ibid.*, p. 230.

in the consolidation case with the approval of the Commission. In all fairness it must be noted that the total gross income of \$309,668.96, although it resulted in more than 21% for the common stock, was a little more than 6.2% on the total assets of \$4,965,000 as listed for the company in its balance sheet. Assuming the book value to be correct, the net return for the assets as a whole was not excessive and the common stock earnings reflected the thinness of the equity held. In this connection, it is pertinent to note that the rates charged by this company were "company-made" rather than "Commission-made" rates. In the absence of protests from patrons the Commission cannot be charged with responsibility for the rates charged. Even though the speculation may have been warranted from the point of view of the quest for profits to promoters, it by no means follows that the public should have been compelled to pay charges sufficient to make possible these earnings, especially in view of the fact that, if Mr. Ferguson was correct, one of the constituent companies had its assets inflated by \$750,000 which was added to an existing value of \$1,000,000 at the time of the merger.

Further light is thrown upon this merger by a joint investigation of the Federal Power Commission and the auditor of the Connecticut Commission in 1928, two years after the Ferguson protest.²⁰ Their report substantiated fully the claims made by Mr. Ferguson in opposing the terms of consolidation. It was revealed that the Connecticut River Company in 1910 or 1911 had its fixed capital inflated by an arbitrary write-up to the amount of \$1,050,000, a mere book-transaction.²¹ Subsequently, in

1926, the promoters sold their interest in this company to the Northern Connecticut Power Company which they dominated, and in this sale to themselves an unwarranted write-up of \$714,405.34 was added to fixed capital account. This sale benefited the promoters who, by financial devices, remained in control of all common stock of the Northern Connecticut Power Company, for which they had paid practically nothing.²² The total of unwarranted inflation of the Northern Connecticut Power Company in 1928, as found by the investigators, was \$1,874,721.67.²³ As a result of litigation against the Connecticut River Company, the dominant owners had been forced to sell out to the Northern Connecticut Securities Corporation. In the course of the litigation and the fight made against the owners in the Legislature, the sum of \$15,000 was paid to Mr. J. H. Roraback, the present head of the Connecticut Light and Power Company, "for state legislation." This, in addition to the \$42,000 paid attorneys, was capitalized by the company and listed as a part of its assets. In 1926 the Northern Connecticut Securities Corporation transferred its assets to the Northern Connecticut Power Company. In 1927 the former corporation was dissolved.²⁴

In one sense the Connecticut Commission cannot be held responsible for the unwarranted write-up of the fixed capital of the Connecticut River Company. This company had never been an operating company and hence had made no reports to the Public Utilities Commission. The most that can be alleged in criticism of the Commission is that it permitted a capital structure for the consolidated company in 1926 with no adequate

²⁰ Federal Power Commission, Windsor Locks Development, Project No. 173, August, 1928.

²¹ *Ibid.*, p. 1 of letter of transmittal.

²² *Ibid.*, p. 3 of letter of transmittal.

²³ *Ibid.*, Exhibit A, p. 21.

²⁴ *Ibid.*, p. 71.

investigation to determine whether the capital of the constituent companies was real or an unwarranted inflation by a book transaction. The Ferguson protest was effective only to the point of having the Commission state that permission to consolidate did not validate the capitalization for purposes of any rate cases that might arise subsequently. Also, it is to be recalled that the revelations concerning this inflation came after consolidation had been effected. There is some question whether the Commission had the facilities to locate this inflation before having to pass upon the question of merger. Further, it is doubtful whether this condition would ever have been revealed but for the investigation initiated by the Federal Power Commission in connection with a proposed hydro development. The question naturally arises as to whether in some of the other consolidations approved by the Commission a like situation could be found if only all facts were known.

It would be unfair to hold the Public Utilities Commission responsible for earnings of this company since rates do not come under Commission surveillance excepting upon petition and protest, and all rates of this company, as well as practically all rates of other companies now existing, are so-called "company-made" rates. Furthermore, the Commission would have no standing in court when the issue arose, if it demanded a reduction in rates because the common stock paid high dividends reflecting the thinness of the equity, if at the same time the total return were not excessive on the total assets used for the business. The most that can be claimed fairly is that the Commission sanctioned a merger of a speculative nature which did prove highly profitable to the promoters. Perhaps the failure of the Commission

to take a more positive position on the Ferguson protest is explained by the fact that this case came in 1926 and not until 1927 did the Commission change its policy and assume responsibility for the capital structure of merged companies.

As an illustration of the concentration of utility power in Connecticut it is to be noted that the Northern Connecticut Power Company is one of the group of companies with which Mr. J. H. Roraback is connected. He is not only president of this company but also of the Connecticut Light and Power Company which, in turn, is the successor to the Rocky River Power Company, the name of which was changed by legislative enactment in 1917 to the Connecticut Light and Power Company.²⁵ The former company, according to the commission, was a subsidiary of the United Gas Improvement Company of Philadelphia.²⁶ No attempt is made to conceal the common ownership of these companies and administrative efficiency dictates the desirability of having the same men serve as officers of the different companies.

Defense of the Commission's refusal to heed a protest against the sale of its power plant and equipment by the Danbury Power and Transportation Company in 1927 is much easier than in the Northern Connecticut Power case. The company in question petitioned for the privilege of sale to the Danbury and Bethel Gas and Electric Company.²⁷ Letters in opposition were filed expressing fear of unreasonable rates in case competition were removed through the sale. On this point the Commission in its decision said:

"The existence of competition in supplying utility service generally is not recognized

²⁵ Report Conn. P. U. Com. 1927, pp. 84-90.

²⁶ Doc. No. 2423 (1917).

²⁷ Doc. No. 4955.

as being economically sound or productive of the public good, especially where public regulation maintains, as to rates and service. If the patrons believe that the present rates or in the future that future rates are unreasonable, their remedy is by petition under the statutes, to this Commission . . ."²⁸

There can be little doubt as to the validity of the position or this assumption with the existence of a Commission which has the power and the will to assume the initiative in determining what are fair rates. The Connecticut Commission has no such power.

Trends in Utility Consolidation

The tendency toward consolidation is shown by an examination of the number of utility companies operating in Connecticut in 1912, the first year of Commission operation, and in 1930 (Table I).

The chief explanation for the decrease in numbers lay in consolidation and merger through the period. Street railway decreases are to be explained partly by consolidation and partly by the de-

clining nature of the industry. The decrease in the number of privately owned water companies reflects consolidation in the main, but also the trend toward public ownership of water companies. The decided increase in the volume of business is revealed by a contrast between the gross operating revenues of privately owned electric, gas, gas and electric companies in the two years. In 1912 this figure was \$8,582,052.34²⁹ and in 1930 it had grown to \$52,328,908.78.³⁰ This represents an increase of more than 600%, notwithstanding a decrease of nearly 30% in the number of operating companies.

Water Companies

Consolidation of water companies has presented fewer problems than have consolidations of other types of utilities. From the inception of the Commission's authority over mergers in 1915 to May, 1930 the Commission gave its sanction

²⁸ Compiled from Report Conn. P. U. Com. 1912, pp. VIII-IX.

³⁰ *Ibid.* 1930, pp. 135, 185, 240.

TABLE I. COMPARISON OF NUMBER OF OPERATING COMPANIES IN VARIOUS UTILITIES IN CONNECTICUT, 1912 AND 1930.

Class	1930*						1912†	Decrease in Number of Privately Owned and Operated Companies
	Owned and Operated	Operated under Lease	Municipalities	Total Operating Companies	Not Operated	Total	Total Privately Owned and Operated Companies	
Electric.....	19	2	5	26	2	28	24	5
Gas.....	8			8		8	12	4
Gas and Electric.....	10		1	11		11	17	7
Express.....	1			1		1	2	1
Jitneys.....	55			55		55		
Railroads.....	4	3		7		7	4	
Street Railways.....	4	2		6	2	8	11	7
Telegraph.....	4			4		4		
Telephone.....	9			9		9		
Telegraph and Telephone Co.'s..							12	1 (increase)
Water—privately owned.....	71		26	97	4	101	79‡	8
Total.....	185	7	32	224	8	232	161	

*As of September 30, 1930 (Report Conn. P. U. Com. 1930, p. 3).

†*Ibid.* 1912. These figures do not include municipally owned utilities, for which the Commission gives no data, nor privately owned companies operated by other companies coming under Commission jurisdiction. Nor do they include reporting companies not yet in active operation. The numbers are to be compared with those in column 1.

‡ Eight other privately owned companies reported to the Commission but they either had not begun operation or no longer operated.

to consolidation of small, independent water companies in 13 instances which the writer has examined. Beside these cases, a number of others involved companies which did the work of water companies as an incident to other activities. Absentee ownership has apparently not developed as fully in the case of water companies as in some other fields.

On December 31, 1929 the Commission gives the following data for the 69 privately owned and operated water companies.³¹

Par value of stock outstanding	
Common.....	\$20,816,801.04
Preferred.....	20,000.00
Number of stockholders.....	5,094
Value of shares held in Connecticut.....	\$16,240,000.00
Long-term debt.....	14,013,620.10*
Total assets.....	56,845,690.53†
Operating income.....	2,434,779.50‡
Net income.....	1,986,940.82§
Dividends.....	1,163,566.78

*Report Conn. P. U. Com., 1930, p. 589.

†*Ibid.*, p. 592.

‡*Ibid.*, p. 613.

§*Ibid.*, p. 613. Amount found by deducting the income of the six companies, the assets of which are not given in the report, from the total income of \$1,994,754.05 for all companies from the sale of water.

Beside the 69 companies for which assets were reported there were six others, the assets of which were not listed by the Commission. Such companies either engaged in selling water as an incident to their work as industrial corporations, or were non-operating companies. At the same time there were 26 municipal water departments, for 22 of which the Commission gives the following data:³²

Fixed capital.....	\$31,824,168.16
Total assets.....	36,423,518.90
Long-term debt.....	12,767,000.00*
Operating income.....	1,088,256.51†

*Report Conn. P. U. Com. 1930, p. 596.

†*Ibid.*, p. 616.

It is interesting to note, incidentally,

³¹ *Ibid.* p. 588.

³² *Ibid.*, p. 593.

that the ratio of operating income to total assets for the privately owned companies was approximately 1 to 23, while that for municipal water departments was 1 to 33, a condition which doubtless reflects the profits objective of the former companies.

The reasons given for consolidation and merger of water companies are strikingly uniform and are mentioned in most of the cases that have come before the Commission. They include: construction of more efficient water sheds and reservoirs; interchange of supply from different sources as necessity required; economy of a more coordinated and efficient management. A quotation from a case in 1927³³ reflects the general position of the Commission:

"The chief public benefit that may be expected from the proposed consolidation is the greater availability of the water sheds of the Westport and Shelton Companies for use in the territory served by the Bridgeport Hydraulic Company, a freer and better interconnection of water supply in the territory served by the three companies, and a reduction in operating expenses."

Whatever significance may be attached to it, the record shows no opposition to any one of the proposed consolidations of water companies. Presumably a well-nigh uniform conviction has held that merger of such companies offered more in the way of benefit than detriment. At any rate, the hazards of an economic octopus have not been so obvious here as to cause opposition. There seems to be no basis for adverse criticism of the work of the Commission in this field.

Steam Railroads

The consolidation of steam railroads was, in general, consummated before 1915 when the Public Utilities Commission was authorized to approve

³³ Doc. No. 4922.

consolidations. Also, the Interstate Commerce Commission has had such responsibility in this field that the duties of the Connecticut Commission have been lessened thereby. In 1915 Connecticut passed a law requiring special permission by the Commission for the acquisition of property by the New Haven Railroad in this State.³⁴ The Commission has given its endorsement to many requests of the railroad for more or less minor acquisitions. In such cases the approval of the Interstate Commerce Commission either had been given already or was requisite to the consummation of the acts projected. Both because of the responsibilities of the Interstate Commerce Commission in this field and because consolidations of railroads antedated the vesting of the Commission with supervision thereof, it is not necessary to discuss at length the policy and the work of the Commission in this line. It is interesting to note that in 1915 there were eight railroads under Commission jurisdiction. Five were operating and three non-operating companies.³⁵

The only railroad merger presented to the Public Utilities Commission came in 1926 when the Central New England Railway Company petitioned for permission to merge with the New York, New Haven and Hartford Railroad

Company.³⁶ This was a mere formality as all stock of the Central New England was already owned by the New Haven Railroad Company. No one opposed the petition and it was approved by the Commission. The elimination of the Central New England Railway Company meant the decrease from five to four operating railroads in the State.

Street Railways

The number of street railways in Connecticut has decreased since 1915 even more significantly than steam railroads. In 1915 the report showed 13 operating and 9 non-operating street railway companies under Commission jurisdiction.³⁷ The decreases in assets as well as in numbers are explained in part by the substitution of bus lines for trolley operation, thereby causing a shift to another classification. Also, some companies formerly operating trolleys as a part of their business had disposed of their street railway property or had otherwise caused a segregation of assets. The general lack of prosperity for street railways, rather than consolidations, explains the diminution in numbers. Some consolidation or merger has taken place in this type of service, largely before the Public Utilities Commission was given supervision thereof³⁸

³⁴ Special Acts 1915, c. 339.

³⁵ Report Conn. P. U. Com. 1915, p. 35. By 1930 these numbers had decreased by one, leaving 4 operating and 3 non-operating railroads (*Ibid.* 1930, p. 26). Of the 4 operating roads 2 were of insignificant size, one operating only 4.2 miles of main track and 2 miles of yard track and sidings (*Ibid.*, p. 31). Another road operated 1.94 miles of main track and 1.21 miles of yard track and sidings (*Ibid.*, p. 39). The 3 non-operating roads were leased either to the New Haven Railroad or to the Central Vermont Railway Company. The New Haven operated 865.31 miles (*Ibid.*, p. 325) of road within the State and the Central Vermont 59.94 miles (*Ibid.*, p. 280).

³⁶ Doc. No. 4817.

³⁷ Report Conn. P. U. Com. 1915, p. 61. Total assets for June 30, 1915 were \$116,994,739.35 (*Ibid.*,

p. 67). In 1930, 4 operating and 4 non-operating companies came within Commission jurisdiction (*Ibid.* 1930, p. 42). Assets as well as number showed a decrease in 1930, amounting at the latter date to \$100,460,479.70.

³⁸ Of the \$116,994,739.35 of assets of street railway companies in 1915 the Connecticut Company held \$50,398,927.28 (Report Conn. P. U. Com., p. 391). Furthermore, it leased and operated the property of the Connecticut Railway and Lighting Company, the assets of which were \$32,054,880.28 in 1915 (*Ibid.*, pp. 61, 408). This single company, therefore, beside several other minor properties operated, controlled more than 82 millions of the nearly 117 millions of street railway assets. In 1930 the Connecticut Company, all of whose stock was held by the New Haven Railroad, had an investment of \$52,041,416.24, thus showing slightly more of the relative assets of all street railway

(Footnote 38 continued on page 35)

and the changes since 1915 have been of minor rather than major significance.

This does not mean that the services of the Public Utilities Commission have not been invoked in connection with the proposed consolidation or sale of street railway property. Five cases, or groups of cases, have called for Commission decision. The first came in 1916 when the Shoreline Electric Railway Company petitioned for permission to purchase three independent traction companies. Upon hearing the Commission decided:

"It appears from the facts presented that the consolidation of these several properties in the manner proposed, should result in a more stable financial organization and in a reduction of fixed charges; that present security holders will be equitably provided for; and that patrons can look for better service from the consolidated company than the several constituent companies are at present able to render."³⁹

The other cases involve a rearrangement of property or a shift in ownership of one kind or another, all designed to improve the efficiency of the operating companies or to simplify financial arrangements. No one of them was of special interest until the Bristol case in 1927.⁴⁰ This petition, mentioned above, involved the segregation of the trolley property of the Bristol and Plainville Electric Company into a company to be known as the Bristol Traction Company. In return for the property it was proposed that the latter company deliver to the vendor \$1,000,000 of its own stock. This sum was decreased to \$750,000 at the suggestion of the Commission and in that form was approved. Mainly, therefore, the case was one of the segre-

gation of property by an electric company rather than a merger or a consolidation. Yet the Commission did refuse to approve a purchase price, even though a book transaction, that might well be presented at some future date as a basis for rate-making.

Telegraph Companies, Telephone Companies, Express Companies, and Jitneys

In 1915 the Commission listed 10 telephone companies reporting to it. Seven of the telephone companies were Connecticut corporations.⁴¹ Total assets of the Connecticut companies were given as \$15,568,127.67, and net income at \$790,762.73.⁴² In 1930 the Commission listed nine telephone companies in Connecticut with combined assets of \$3,301,621,008.83.⁴³ This increase in assets is explained chiefly by a growth of the Southern New England Telephone Company from slightly over \$15,000,000 to more than \$61,000,000 and by the inclusion at the later date of the assets of the American Telephone and Telegraph Company and those of the New York Telephone Company, both primarily interstate corporations doing business in Connecticut. The Commission in its report shows no segregation of assets employed in Connecticut.

Although the increase in assets is explained chiefly by internal growth and inclusion of the two interstate companies, one consolidation occurred with the approval of the Commission. In 1924 the East Haven Telephone Company petitioned to be permitted to sell its property to the Southern New England Telephone Company.⁴⁴ A majority

(Footnote 38 continued from page 34)

companies than in 1915 (*Ibid.* 1930, p. 46). In 1930 the Connecticut Railway and Lighting Company, operated under lease by the Connecticut Co., had an investment of \$29,225,881.49 (*Ibid.*, p. 50). Hence, the Connecticut Co. controlled assets of approximately the same amount as in 1915.

³⁹ Doc. No. 2000.

⁴⁰ Doc. No. 4975.

⁴¹ Report Conn. P. U. Com. 1915, p. 78.

⁴² *Ibid.*, pp. 79, 80.

⁴³ *Ibid.* 1930, p. 54.

⁴⁴ Doc. No. 4269.

of the subscribers to the services of the East Haven Company expressed a desire for the merger as a means of giving them the advantages of the New Haven exchange. No one opposed the request and the Commission granted the petition and approved the sale. This is the only instance in which the Commission has been asked to approve a consolidation of telephone companies. Nine telephone companies, six of which were relatively unimportant local companies, continued to operate in Connecticut on December 31, 1929.

The three telegraph companies reporting to the Commission in 1915 showed total assets of \$184,949,165.48.⁴⁵ These three companies reported assets of \$362,421,486.53 in 1930.⁴⁶ There has been no consolidation or request for consolidation since 1924.

Likewise, the Connecticut Commission has had no part in the changes which have taken place in the railway express business. The corporations engaged in this field have been chartered by other states and have done an interstate business. In 1915 the Commission reported the Adams Express Company and the American Express Company operating in the State, with total assets of \$94,427,889.28.⁴⁷ In 1930 it reported the Railway Express Agency, Inc., successor to the American Railway Express Company, with total assets of \$80,946,631.96.⁴⁸ The express companies, because of economic changes which need not be dwelt upon here, present the unique case among Connecticut public utilities, with the exception of street railways, of a decrease in the value of assets in the interval from 1915 to 1930.

The Connecticut Commission did not receive jurisdiction over busses and jit-

neys until 1921.⁴⁹ By this law jitneys were subjected to the same type of control, as to issuance of certificates of public convenience and necessity and otherwise, as were utilities in general. In 1922 the Commission reported 111 certificates in force, approving the operation of 225 jitneys over 58 routes for a distance of 609 miles. Also, the Commission had authorized the operation of 37 jitneys by street railway companies.⁵⁰ By 1930 it had authorized the operation of 618 vehicles over a distance of 2,090.71 miles.⁵¹ Although the Commission has approved a number of sales to others of certificates to operate jitneys, no cases of consolidation in the usual sense have appeared. In most cases, merely the transfer of a license from an individual operator to a corporation was involved. In this manner, the New England Transportation Company has succeeded to the rights of others to operate jitneys over several routes. The cases examined do not reveal Commission objection to the amount paid for licenses acquired from other companies. The emphasis has been placed upon the effect of the transfers in providing adequate service to the public. If at some later date operating companies claim the right to make a return upon their investment, including the purchase price of certificates, this may prove to have been a serious error on the part of the Commission.

An indication of Commission policy appears in a case of September 23, 1927, when the New England Transportation Company requested permission to acquire the certificates, numbers 23 and 109, issued to the Hartford-Winstead-Torrington Jitney Association. It had

⁴⁵ Report Conn. P. U. Com. 1915, p. 83.

⁴⁶ *Ibid.* 1930, p. 416.

⁴⁷ *Ibid.* 1915, p. 19.

⁴⁸ *Ibid.* 1930, p. 161.

⁴⁹ Public Acts 1921, c. 77.

⁵⁰ Report Conn. P. U. Com. 1922, p. 14.

⁵¹ *Ibid.* 1930, p. 76.

already acquired the ownership of the latter company.⁵² In the hearing it developed that \$240,000 had been paid the vendor company and that the property, exclusive of the certificates to operate, was valued at only \$33,000. Although the Commission, in approving the sale, said that it did not validate the purchase price for purposes of any rate cases that might arise, if at any time a higher rate seemed necessary to support the capitalization of the company and to prevent receivership, great pressure would certainly be brought upon the Commission to sanction rates necessary to maintain solvency for the corporation. The record shows no case in which the Commission has refused to approve a transfer of certificates or in which it has vetoed the purchase price for certificates.⁵³

Gas and Electric Companies

By far the most significant consolidation of public utilities under Commission regulation in Connecticut has come in the field of gas and electric companies. In an earlier section of this paper attention was called to the fact that the Commission has never refused to grant permission for any consolidation requested. Also, it was noted that in the only two cases to attract serious opposition the Commission disregarded the objections and allowed consolidation. One was a gas and electric company case in which a minority stockholder objected to the speculative nature of the financial set-up and the other case one in which patrons of the companies expressed a fear of monopoly. Further, attention was given to the only two cases in which the company required a writing down of the capitalization of the consolidated com-

panies, one of these being a gas and electric company and the other a traction company owned by an electric company. It is pertinent to contrast the status of gas and electric plants in Connecticut in 1915 and 1930.

The following table shows the contrast between the number of operating companies, and their assets, engaged in this type of business in the years 1915 and 1930.

	1915*	1930†
Electric Companies		
Number.....	25	19
Assets.....	\$19,949,162.41	\$64,542,280.73
Gas Companies		
Number.....	12	8
Assets.....	\$17,509,923.59	\$34,942,256.08
Gas and Electric Companies		
Number.....	16	10
Assets.....	\$16,549,270.74	\$142,492,929.27
Total Assets.....	\$54,008,356.74	\$241,977,466.08
Total Number.....	53	37

*Compiled from Report Conn. P. U. Com. 1915, pp. 13, 14, 22, 27, 28.

†*Ibid.* 1930, pp. 133, 180, 232.

In spite of a decrease of more than 30% in the number of operating companies, assets of companies selling gas and electricity had increased more than 348% in the 15-year interval. The major portion of the change is explained by internal growth, but merger was also a significant factor.

An examination of the documents of the Commission shows a number of cases in which a company engaged only incidentally in the production and sale of gas or electricity has been permitted to sell its utility property.⁵⁴ No particular significance attached to these changes in ownership and no analysis is required in such cases. But in more than 30 cases the proposals involved the transfer

⁵² Hearings and decision in the files of the Jitney Department of the Commission.

⁵³ The records of the Commission in this respect are not documented in such manner as to enable an in-

vestigator to verify this generalization. Nevertheless, people connected with the Commission for five years or more have told the writer that, so far as their knowledge extends, this is a valid statement.

⁵⁴ Docs. Nos. 3263, 3534, 3566, et al.

of property in such manner as to result in a consolidation or merger. In a number of cases the consolidations really meant a legal rather than an economic change, the transfer of ownership having been brought about already by the acquisition of stock in the company to be acquired, or else by the formation into one company of several properties having common ownership.⁵⁵ The Commission seems in general to have regarded the legal change in such cases as of no great moment. This view is indicated in the decision involving the purchase by the Rocky River Power Company, later to become the Connecticut Light and Power Company, of a number of companies in 1917.⁵⁶

"The net result of the proposed transaction, therefore, from the corporate viewpoint, appears to be the acquisition by the United Gas Improvement Company of the control of The Rocky River Power Company and the substitution by the United Gas Improvement Company of a more direct form of ownership for its present indirect and separate ownership of the several companies proposed to be consolidated."

A similar position was taken in a decision made in 1926,⁵⁷ concerning the consolidation into one company of the Northern Connecticut Power Company and a number of other companies:

"... in view of the present unified ownership of the stock of said companies, the present owners thereof are desirous of bringing about the merger and consolidation of said companies, to the end that said companies may be operated by a single Board of directors and one unified management, so that the property and affairs of said companies may be more economically and efficiently operated and controlled."

Document No. 2423 (in 1917) also illustrates the reasoning of the Commission in giving approval of consolidation:

"Various advantages of unified control were emphasized at the hearing and attention was particularly directed to the fact that by establishing one large steam auxiliary plant, as was contemplated, the businesses of the several companies would be assured of continuity of operation even in times of low water and consequent reduction in the hydro-electric supply of current. Statements were made regarding the proposed development of power possibilities of the Housatonic River which could be accomplished more successfully, it was claimed, under one management having control of most of the power privileges along said river in this State than by several independent companies with more or less conflicting interests, and riparian rights and limitations."

The case further shows the disavowal by the Commission of responsibility for the capital structure of the consolidated company. Calling attention to the lack of any jurisdiction by the Commission over capital structure of utilities, it said:

"It would seem unnecessary for the Commission to undertake a detailed analysis of the financial transactions involved at the time of such merger, when the several companies independently, or after consolidation, are at liberty to proceed in the issuance of their securities without supervision or restriction by this Commission."

But this petition, it must be recalled, came in 1917. Not until 1927 did the Commission apparently reverse its policy in this respect and require the merging companies to write their capitalization down by an amount of nearly 10%,⁵⁸ after refusing to approve the valuation that had been placed on the property. Even in 1917 the lack of any jurisdiction over security issues might be regarded as a stronger reason why the Commission should scrutinize with all the more care the financial set-up of consolidations over which it did have control.

⁵⁵ Doc. No. 2423.

⁵⁷ Doc. No. 4656.

⁵⁸ Doc. No. 4992.

⁵⁶ For example, Doc. Nos. 2423, 4543, 4656, 4670, 4677, 5186, 5200, 5459.

As early as 1919 the Commission gave evidence of its approval of the consolidation of small electric companies as a general principle. At that time it said:

"The Shoreline Electric Railway Company now generates electricity at four small and inefficient stations and the Eastern Connecticut Power Company at great expense has built a large and well equipped power house at Montville, and the purpose of this sale is the transfer to the Eastern Connecticut Power Company of the rights, franchises and property used by the Shoreline Electric Railway Company in the generation and distribution of electricity in order that electric power may be produced for the Shoreline Electric Railway Company and other users efficiently, economically and cheaply."⁵⁹

A somewhat different view is found in a 1920 decision⁶⁰ in which the Commission approved the sale by one company to another of a distribution system in the Town of Clinton:

"It is true, in the opinion of the Commission, that a closer supervision and probably better service can be rendered by a company with general offices and its maintenance department located at a point nearer to the territory to be served. . . ."

Obviously there is a definite limit to the extent to which consolidation can be carried without loss from separation of the general offices and the territory to be served.

These two phases of the Commission's position may be reconciled as was indicated in a statement in 1926.⁶¹ After mentioning the tendency toward consolidation, the Commission commented:

". . . where the size of the corporate property and industry merged is not such as to become unwieldy under unified management, or lose a proper degree of contact with the patrons, there should be economic advan-

tages in such a merger by the reduction of overhead and general operating expenses, and the guarantee of uninterrupted and improved service by the interchange of current. . . ."

The Commission, therefore, seems to have set for itself the task of steering a clear course between inefficient, small plants on the one hand and absentee management and control on the other. Perhaps this is another way of saying that no formula can be substituted for the exercise of discretion by the Commission in deciding each case on its merits and in the light of the prevailing conditions. Yet the exercise of discretion has to date invariably resulted in sanction for the proposed consolidations. One possible explanation for this is that the companies, knowing the policy of the Commission, have limited themselves to requests which they had reason to believe would be granted. It is also conceivable that the petitioning companies may have formulated their applications to suit the degree of oversight exercised over mergers.

A somewhat different emphasis in favor of consolidation is found in a 1920 case.⁶² The Hartford Electric Light Company petitioned to be allowed to purchase the common stock of the Connecticut Power Company. President Ferguson of the former company in his testimony said:

"The fundamental reason which makes this a desirable transaction, is the need of Connecticut industries to be in a position to compete with the Middle West which is nearer the coal fields. This means building as large and efficient plant as possible, to get maximum economy, and means a plant larger than Hartford alone can load up with. To get the benefit of maximum plant efficiency, it means selling the capacity that Hartford cannot use, wholesale to other communities in the State, and the most convenient vehicle for doing that is the Connecticut Power Company, with which the Hart-

⁵⁹ Doc. No. 3154.

⁶⁰ Doc. No. 3534.

⁶¹ Doc. No. 4670.

⁶² Doc. No. 3302.

ford Electric Light Company in the past has had a contract for the sale of power, but it was felt that the business could be more advantageously developed through direct ownership of the company . . . as we felt it was unsafe to build a large station and depend on a contract."⁶³

Approval of this petition indicates Commission sanction for a policy of regional competition with industry in other sections which, it was alleged, would be facilitated by the consolidation.

Attention has already been directed to the refusal of the Commission to consider opposition to a sale of property which the patrons feared would eliminate competition and result in a monopoly of a public utility.⁶⁴ The Commission in this instance quite logically held that competition in utilities was economically unsound so long as regulatory power was vested in a Commission. And yet, in 1923,⁶⁵ the Commission had approved a transfer of stock in one company to another company, noting that:

"Neither of the said companies compete with each other, as they serve different although contiguous territories, and it is believed that the union of said companies will result in very substantial economies of operation and will be for the benefit of the public."

But if the Commission is right in its avowal of the desirability of monopoly with regulation in utilities, wherein is the absence of competition and the serving of different and contiguous territories a relevant consideration? True, this was not given as the reason for approval and was merely obiter dicta as to this case.

It would be erroneous to conclude from the analysis so far made that the Commission has had a policy of blanket

approval of consolidations without first having looked carefully into each case and convinced itself that the petition in question warranted approval. An illustration of this attitude is found in a case in 1923.⁶⁶ The Baltic Mills Company, doing incidentally the work of a utility company in the sale of electric current, wished to lease its equipment for the generation and sale of current to the Eastern Connecticut Power Company. The proposed lease covered only the territory in which the Baltic Mills then distributed current and not a more extensive territory in which it was authorized to sell current but which to date it had not developed. In the hearings the Chairman of the Commission raised the question as to whether, after having given the lease or upon the expiration of the lease, the Baltic Company would be in as good a position as formerly to supply current in its undeveloped territory. He was assured that the undeveloped territory for which the Baltic Company had a license was also served by other companies and the discontinuance of the Baltic service would in no way prejudice the possibilities of an extension of service to these sections by the companies which shared with the Baltic the right to develop them. On the basis of such assurance the lease was approved.

Summary

A review of the consolidation cases which have come before the Commission seems to warrant a generalization to the effect that there is every presumption that consolidation is desirable if, upon investigation, no compelling circumstances indicate otherwise; that monopoly, if regulation obtains, is desirable in the utility field; that in certain

⁶³ Hearings Doc. No. 3302, p. 2.

⁶⁴ Doc. No. 4955.

⁶⁵ Doc. No. 4096.

⁶⁶ Doc. No. 4206.

cases the Commission will not approve the capital structure of the merged companies; that approval of consolidation does not validate the capitalization for rate-making purposes. The Commission in its 1926 report expressed some apprehension at the growing tendency

toward absentee ownership and control of Connecticut utilities, but there is no indication that this attitude has had a material effect in bringing about a decrease in the number of consolidations (See Table II). The general position of the Commission has been such as to

TABLE II. CROSS SECTION OF CONCENTRATION OF OWNERSHIP OF CONNECTICUT PUBLIC UTILITIES, DECEMBER 31, 1929.

Class of Utility* and Name of Company	Total Number of Shares of Stock	Number of Stock- holders	Number of Stock- holders in Connec- ticut	Number of Shares Held in Connec- ticut	Total Assets	Percentage of Major Controlled Assets to Total Assets of Each Utility
Railroads—Total.....					\$ 671,874,614.36	
a. New York, New Haven & Hartford†.....	1,571,179 com. 490,367 pfd.			114,312 40,928	601,164,392.22	
b. Central Vermont‡.....	100,000				55,300,455.36	
Total (a + b).....					656,464,847.58	97%
Express						
Railway Express Agency.....					80,946,631.96	100%
Telegraph—Total.....					362,421,486.53	
Western Union Telegraph Co.	1,024,099	23,738	1,185	40,916	359,936,978.38	99%
Telephone—Total.....					3,301,621,008.83	
a. American Telephone & Tele- graph Co.....	13,223,398	469,801	14,319	469,020	2,477,023,550.88	
b. New York Telephone Co.§.....	2,806,000 com. 250,000 pfd.	41,954	350	5,238	755,773,546.88	
c. Southern New England Telephone Co.¶.....	350,000	6,787	6,162	212,531	67,988,021.31	
Total (a + b + c).....					3,300,785,119.07	99%
Street Railways—Total.....					100,711,279.44	
a. Connecticut Co.¶.....	400,000	1	1	400,000	62,949,161.09	
b. Connecticut Railway & Lighting Co.....	89,772 com. 81,429 pfd.	1,184 266	894 214	35,114 6,283	34,664,669.61	
Total (a + b).....					97,613,830.70	96%
Gas and Electric.....					241,977,466.08	
a. Roraback group||.....					102,295,970.01	
b. Ferguson group**.....					66,651,822.77	
Total (a + b).....					168,947,792.78	69%

*Two jitney companies (Connecticut Co. and New England Transportation Co.) out of a total of 55 companies in operation accounted for 311 of the 618 vehicles and 1,190.76 of the 2,090.71 miles operated on September 30, 1930.

†176,025 shares of the New York, New Haven & Hartford are held by the Pennsylvania Railroad, which is the largest stockholder. The share data are for 1930 and the asset data for 1929.

‡99,989 shares of the Central Vermont are held by the Canadian National Railway, which is the largest stockholder. The share data are for 1930 and the asset data for 1929.

§The 1930 annual report of the Southern New England Telephone Company showed that 133,369 of its 400,000 outstanding shares were held by the American Telephone and Telegraph Company, which also controlled the New York Telephone Company.

¶The New Haven Railroad held all stock of the Connecticut Company, which in turn leased all the property of the Connecticut Railway & Lighting Co.

||The Roraback group is owned and controlled by the Connecticut Electric Service Company, 80% of whose stock was owned by the United Gas Improvement Company of Philadelphia, according to a 1927 statement of the Federal Trade Commission.

**This group focuses in the Hartford Electric Light Company.

encourage rather than to retard the consolidation movement.⁶⁷

From Table II it can be seen that the New York, New Haven and Hartford Railroad Company is "the" railroad industry in Connecticut. Likewise the Western Union Telegraph Company dominates the telegraph industry and the Southern New England Telephone Company the telephone service in the State. The Connecticut Company, which is to say the New Haven Railroad, controls street car operation in the State, and in addition has invaded the

jitney field to a substantial degree. While the two electric and gas groups do not dominate to the extent that one or two companies control in some other utilities, they do have approximately 70% of the assets of all such companies. If the assets of the United Illuminating Company of New Haven and of the New Haven Gas Light Company be added, these four groups account for \$207,683,883.82, or 85% of the total assets of \$241,977,466.08, and concentration in this type of utility is still on the increase.

⁶⁷ Since the preparation of this paper there have been other mergers of public utility companies in the State.

No attempt has been made to analyze those arising later than January 1, 1931.

Production Costs of Urban Land in Sunnyside, Long Island

By ROSALIND TOUGH

SUNNYSIDE is the name applied to a large section of the First Ward of the Borough of Queens. Sunnyside Gardens, a part of the Sunnyside area,¹ embraces a 55.82 acre tract of land developed as a housing project by the City Housing Corporation.²

Land now constituting Sunnyside Gardens lay idle from the latter part of the 19th century to 1924. During this period the site may be said to have been "ripening" into a new use. It had ceased to grow agricultural products; there was no demand for it for urban purposes. In other words, for a period of more than 30 years the land produced nothing. Its owners simply held it and waited.

Production Costs of Land and the Ripening Period Defined

No land can be held out of use without costs being incurred. These costs may be divided into two classes, "direct" and "indirect." Together they are known as the "production" costs of land.³ Direct costs cover monetary out-

lays, such as taxes and assessments; expenditures for cleaning, grading, draining and filling; interest on money borrowed, etc. Indirect costs represent losses incurred or income foregone, such as loss of interest: (a) on the investment; (b) on the money expended for taxes and assessments; and (c) on public improvements.

The "ripening" period is used herein to designate the time during which the land under discussion was held out of use.⁴ Production costs on the various parcels of land include only the costs which accumulated during this ripening period.

Method of the Study

In the last few years at least three studies measuring costs of carrying parcels of vacant land have appeared.⁵ The procedure in obtaining direct and indirect costs for this study is similar to that suggested by these earlier articles. Since, in these previous discussions, analyses have been made of the various factors entering into cost and the extent to

¹ The use of the term is believed to have originated from the fact that a farm of the Bragaw family, early settlers of this region, was called "Sunnyside."

² The Corporation purchased 76.67 acres, but sold 20.85 acres as "vacant" land.

³ "City Housing Corporation is a limited dividend Company. . . . In 1924 when the housing situation in New York was still very acute, a group of socially minded men and women under the leadership of Alexander M. Bing formed this company for the purpose of erecting low priced homes and conducting experiments in the housing field." (Emmerich, Herbert, "The Problem of Low-Priced Co-operative Apartments: An Experiment at Sunnyside Gardens," 4 *Journal of Land & Public Utility Economics* 225-234 (August, 1928)).

For a detailed description of City Housing Corporation, its organization, and operation at Sunnyside see

Ely, R. T., "The City Housing Corporation and 'Sunnyside,'" 2 *Journal of Land & Public Utility Economics* 172-185 (April, 1926).

⁴ Dorau, Herbert B. and Hinman, Albert G., *Urban Land Economics*, (New York: Macmillan Co., 1928), p. 207.

⁵ Ely, Richard T. and Morehouse, Edward W., *Elements of Land Economics*, (New York: Macmillan Co., 1924), p. 95.

⁶ Arner, G. B. L., "Land Values in New York City," 36 *Quarterly Journal of Economics* 545-580 (August, 1922); Loucks, W. N., "Increments in Land Values in Philadelphia," 1 *Journal of Land & Public Utility Economics* 469-477 (October, 1925); Shannon, Howard L. and Bodfish, H. Morton, "Increments in Subdivided Land Values in Twenty Chicago Properties," 5 *Journal of Land & Public Utility Economics* 29-45 (February, 1929).

which these specific items should be included or excluded, it appears unnecessary to emphasize these points here. A few statements, however, will make apparent the general procedure followed in the present analysis.

(a) Early cost and selling prices were obtained from the Queens County Conveyances, Register of Deeds Office, Jamaica, Long Island. Other material was received from the Pennsylvania and Long Island Railroad Corporation's Real Estate Department. In addition, the writer had the cooperation of the various departments of the City Housing Corporation and access to the Company's files and records.

(b) Taxes for the City Housing Corporation's property were ascertained by applying the annual tax rates to the assessed valuations of land under consideration. These assessed valuations were obtained from the Department of Taxes and Assessments, Queens, Long Island. Taxes paid by the Pennsylvania and Long Island Railroad upon its holdings were included by the Railroad with other data concerning the land.

For the first holding to be discussed, that of Frederick Morgenthau, an arbitrary annual tax of 3% of the cost of each parcel of land sold was adopted. In order to include only the costs incurred by Mr. Morgenthau, computation of taxes was limited to the years during which he held each parcel of land. The basis for this rate, which is about $\frac{1}{2}\%$ higher than that to which land is usually subjected, was the fact that during this period market values of land were rising, and consequently it was assumed that the total tax on land would

show a corresponding increase. Also the data which the Pennsylvania Railroad furnished showed that, in their experience, during the first part of the 20th century a tax rate of almost 3% of the cost of land prevailed.

(c) In the computation of interest items compound interest of 4% instead of simple interest was used. This statement is applicable, however, only to the holdings of Frederick Morgenthau and of the Pennsylvania and Long Island Railroad. For the City Housing Corporation's holdings a simple interest rate of 6% was adopted, for reasons explained later.

Use of the compound rate of 4% was based on two assumptions: (1) that no cash payments for interest were currently made during the ripening period; i. e., that title resulted from the investment of capital owned by the purchasers rather than borrowed by them. Accepting this assumption, interest compounded represented income foregone by the investor in choosing a non-income-yielding investment in vacant land in preference to a cash-income-yielding security, so that the difference between simple interest and compound interest might be described as payment for deferring the realization of current cash incomes;⁶ (2) that 4% is a generally accepted long-time interest rate on a non-speculative investment over a period of time. Furthermore, previous studies of costs incurred in holding vacant land have used this rate.⁷

For the City Housing Corporation's property simple interest at 6% was used in preference to a compound rate of 4%. The reason for this procedure is found in the actual experience of the Corporation.

⁶ Since the data for Frederick Morgenthau's purchase were gathered from the Queens County Conveyances, the terms of the contracts were not given. For the purpose of this study it was assumed that the transaction was financed by equity rather than debt capital. In the case of the land of the Pennsylvania

Railroad, the site was assembled from a variety of sources and the contracts were not available for investigation by the writer. Here also, purchases by the Railroad were assumed to be made with equity capital.

⁷ Shannon and Bodfish, *op. cit.*, p. 35.

The organization, a limited dividend company, procured its capital at an average rate of 6%. Each year all costs on land used for building purposes, both direct and indirect, were considered to be part of the construction cost. Direct costs, i. e., taxes and public improvement costs, were paid from current revenues after the first unit of Sunnyside Gardens was sold. Indirect costs were computed at the rate of 6% simple interest. It was deemed more valuable for the purpose of this study to present what actually occurred rather than to assume the generally accepted, long-time, compound interest rate of 4%.

(d) In computing total cost of parcels of vacant land which were sold, no provision was made for selling and legal expenses. These are legitimate costs which should be added. However, since for the

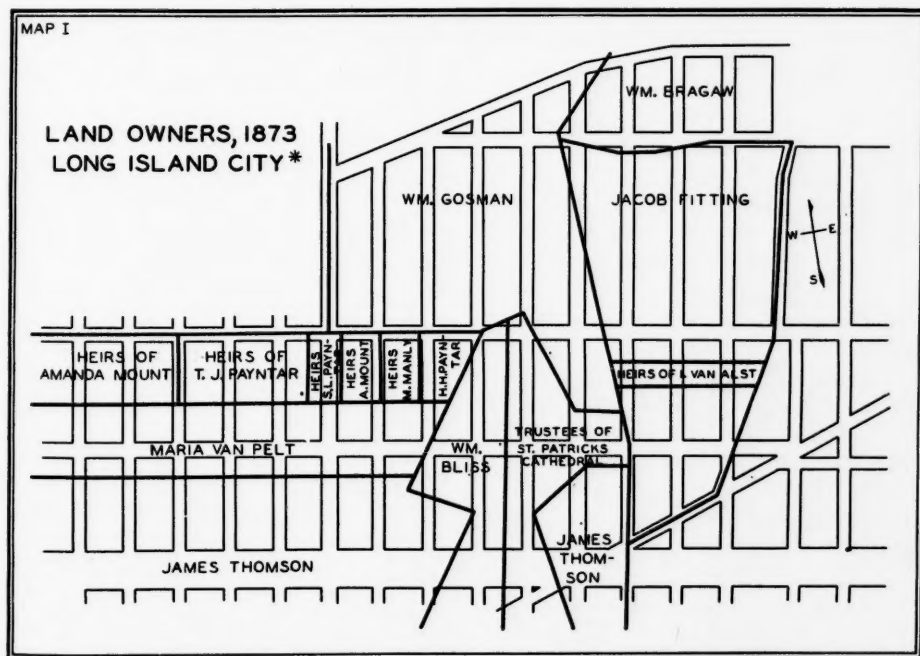
early land holdings there is no means of knowing to what extent advertising, salesmanship, etc., were used it seems advisable merely to point out that they have not been included.

(e) In the discussion of variations in land values over periods of time, no recognition has been given to changes in the price level.⁸ Actually such changes occurred. However, since there is a lack of adequate information to take care of changes in the price level which affect land as a commodity, this factor has not been included in the computation of the investor's or operator's gain or loss.

Ownership History at Sunnyside

The area which now constitutes Sunnyside Gardens was utilized primarily

⁸ Loucks, *op. cit.*, p. 470.



*Data from Commissioner's Map of Long Island City, Queens County, Town of Newtown, map filed, 1873.

for farms until the latter part of the 19th century (See Map I). In 1892 Frederick Morgenthau purchased 30 acres of land from Jacob Fitting, who had begun to subdivide the acreage but had sold no lots. Morgenthau disposed of various separate lots from the year 1892 through 1904 (Table I). During this period the total area sold was about $\frac{1}{3}$ of his holding.

The Pennsylvania and Long Island Railroad began to assemble land in the vicinity during 1902-1906, through its agent the Stuyvesant Real Estate Company, for construction of the Sunnyside freight yards. These yards took less space than had been anticipated and the Railroad found itself holding a tract of land of $52\frac{1}{3}$ acres which it sold in 1924 to City Housing Corporation.⁹

In addition to this land, the City Housing Corporation purchased other parcels which gave it a total holding of 76.67 acres but a portion of this was sold as vacant land.

It is apparent that even though the holdings occurred in different periods, the land owned by Frederick Morgenthau, by the Pennsylvania and Long Island Railroad, and that constituting Sunnyside Gardens plus the "vacant" land sold by the Corporation were not identical areas. However, part of Morgenthau's holding was embraced in the Railroad tract and all the land held by the Railroad plus additional acreage was purchased by the City Housing Corporation. Inasmuch as these three holdings cover the period during which land in Sunnyside was ripening into urban use, the production costs of each have been computed in turn.

Production Costs to the Various Holders

The Morgenthau Tract. Frederick Morgenthau's initial purchase of land was at the price of \$1,000 an acre.¹⁰ Between 1892 and 1904 he subdivided this tract and sold small parcels of land. In the majority of these transactions, the consideration is given in the deed

TABLE I. MORGENTHAU LAND TRANSFERS AT SUNNYSIDE, L. I., 1892-1904.*

Year	Number of Square Feet	Total Consideration (in dollars)	Consideration per Square Foot (in cents)
1892.....	72,000	\$1,800.00	2.5
1895.....	27,000	2,300.00	8.5
1898.....	5,000	625.00	12.5
1899.....	2,500	325.00	13.0
1899.....	5,000	650.00	13.0
1899.....	4,750	400.00	8.4
1900.....	2,500	260.00	10.4
1900.....	5,000	620.00	12.4
1901.....	35,600	3,460.00	9.9
1901.....	10,000	1,040.00	10.4
1901.....	15,000	1,260.00	8.4
1901.....	7,500	675.00	9.0
1902.....	2,500	300.00	12.0
1902.....	4,750	400.00	8.4
1902.....	2,375	250.00	10.5
1902.....	2,500	275.00	11.0
1902.....	5,000	780.00	15.6
1902.....	5,000	600.00	12.0
1902.....	9,500	1,200.00	12.6
1902.....	4,750	600.00	12.6
1902.....	2,375	200.00	8.4
1903.....	2,500	300.00	12.0
1903.....	4,750	600.00	12.6
1903.....	2,500	200.00	8.0
1903.....	12,500	1,875.00	15.0
1903.....	5,650	850.00	15.0
1903.....	2,500	400.00	16.0
1903.....	2,500	350.00	14.0
1903.....	2,500	400.00	16.0
1903.....	2,500	400.00	16.0
1903.....	2,375	300.00	12.6
1903.....	2,500	350.00	14.0
1903.....	2,500	400.00	16.0
1904.....	20,000	3,050.00	15.3
1904.....	4,750	450.00	9.5
1904.....	2,375	225.00	9.5
1904.....	4,750	450.00	9.5
1904.....	2,375	225.00	9.5
Total..	309,525	\$28,845.00	.....

*Selling prices taken from *Queens County Conveyances*: No. 1049, p. 198; No. 1080, p. 409; No. 1212, p. 269; No. 1217, p. 361; No. 1219, p. 138; No. 1230, p. 119; No. 1246, pp. 241, 243; No. 1250, p. 331; No. 1251, p. 233; No. 1253, p. 296; No. 1257, p. 250; No. 1270, p. 302; No. 1271, p. 305; No. 1283, p. 350; No. 1284, pp. 368, 407; No. 1292, pp. 98, 174, 176; No. 1293, p. 137; No. 1294, p. 68; No. 1296, p. 60; No. 1299, p. 217; No. 1305, p. 399; No. 1307, pp. 94, 260; No. 1311, pp. 235, 270, 272; No. 1312, pp. 176, 440; No. 1322, pp. 102, 217; No. 1323, p. 217; No. 1328, pp. 54, 156, 158.

⁹ Some of this area comprised land which had been owned by Morgenthau and earlier in 1873 had been part of the Fitting farm.

¹⁰ Queens County Conveyance No. 914, p. 377.

(Table I).¹¹ The land for which this information is given was equivalent to about $10\frac{1}{3}$ acres, so that its cost on a \$1,000 an acre basis was \$10,356 (Table II).

TABLE II. DIRECT AND INDIRECT COSTS OF CARRYING VACANT LAND AT SUNNYSIDE, L. I., INCURRED BY FREDERICK MORGENTHAU, 1892-1904.*

	Total Amount (in dollars)	Amount per Square Foot (in cents)	Percentage of Original Cost
Original Cost.....	\$10,356.00	3.3	100.00%
Compound interest on capital invested†.....	3,573.00	1.2	34.50
Taxes‡.....	2,249.00	.7	21.71
Compound interest on taxes§.....	594.00	.2	5.74
Production Cost.....	6,416.00	2.1	61.95
Total Cost§.....	16,772.00	5.4	161.95
Total of Selling Prices¶.....	28,845.00	9.3	277.91
Profit.....	\$12,073.00	3.9	115.96

*Cost and selling prices taken from *Queens County Conveyances*: No. 914, p. 377; No. 1049, p. 198; No. 1080, p. 409; No. 1212, p. 269; No. 1217, p. 363; No. 1219, p. 138; No. 1230, p. 119; No. 1246, pp. 241, 243; No. 1250, p. 331; No. 1251, p. 233; No. 1253, p. 296; No. 1257, p. 250; No. 1270, p. 302; No. 1271, p. 305; No. 1283, p. 350; No. 1284, pp. 368, 407; No. 1292, pp. 98, 174, 176; No. 1293, p. 137; No. 1294, p. 68; No. 1296, p. 60; No. 1299, p. 217; No. 1305, p. 399; No. 1307, pp. 94, 260; No. 1311, pp. 235, 270, 272; No. 1312, pp. 176, 440; No. 1322, pp. 102, 217; No. 1323, p. 217; No. 1328, pp. 54, 156, 158.

†Compound interest at rate of 4% for the period for which each parcel of land was held. Compound interest on taxes computed from the date each tax was due to the date of sale of that parcel.

‡Taxes computed at 3% of cost of each parcel of land during the period it was held by Mr. Morgenthau.

§No provision has been made for selling or legal expenses.

¶Represents the total of the amounts received by Mr. Morgenthau for the sale of the 38 parcels of land between 1892-1904.

These $10\frac{1}{3}$ acres instead of the total 30 acres have been selected for study, because of (1) a desire to ascertain whether or not Frederick Morgenthau realized a profit on the sale of land, when both direct and indirect costs have been deducted, which limits the selection of sites to those actually sold, and (2) because of lack of information concerning some considerations, which in certain instances were not given in the recorded deeds.

The $10\frac{1}{3}$ acres were completely marketed in 1904. Since parcels of this land were sold beginning with the year 1892

and continuing at intervals through to 1904, taxes, interest on taxes, and interest on the original investment were computed for each parcel of land only during the period in which it was held by Frederick Morgenthau.

The direct and indirect costs of carrying these various parcels of land were approximately 62% of the original cost; the selling price of the land was 278% of the cost, so that the gain when original cost plus production cost is deducted from selling price was 116%; i. e., without consideration of legal and selling expense which have not been included in this discussion (Table II).

It is fully realized that since taxes and rate of interest were assumed, the results are somewhat hypothetical. Nevertheless, they serve the purpose of demonstrating that despite the cumulation of production costs of urban land over a period of time, where the area under consideration is sold in parcels at different intervals, thereby reducing the average period for which the site is held, and is completely marketed by the end of the period, the production costs are relatively low. In other words, unless market values rise rapidly, the chances of gain on an investment in "vacant" land are increased if the owner markets his land gradually over a number of years in preference to waiting to sell the entire tract at the end of a specific period of time.

Land Held by the Pennsylvania and Long Island Railroad. Indirect costs for land vary materially depending upon whether a simple or compound interest rate is used. For example, the data furnished by the Pennsylvania Railroad include carrying charges on the basis of simple interest. For the purpose of this

¹¹ There is a record of 49 transactions engaged in by Morgenthau between the years 1892 and 1904. Thirty-eight of the deeds quote consideration. Eight give no

consideration. Two deeds are for sites with building improvements. Two deeds represent the resale of a piece of land sold at an earlier date.

study it has been thought desirable to use compound interest. However, over an 18-year period the differences in "indirect" costs are great enough to result in a smaller loss to the Railroad if simple interest is used than if indirect costs are ascertained by means of compound interest¹² (Table III). That a

TABLE III. COMPARISON OF DIRECT AND INDIRECT COSTS OF CARRYING LAND USING SIMPLE INTEREST AND COMPOUND INTEREST, 1906-1924.*

	Simple Interest†	Compound Interest‡
Cost of separate parcels of land	\$297,600.00	\$297,600.00
Expense of assembling.....	12,000.00	12,000.00
Cost of clearing title.....	3,819.00	3,819.00
Interest on capital invested.....	222,912.00	319,687.00
Taxes for 18 years.....	180,000.00	180,000.00
Interest on taxes.....	68,400.00	86,712.00
Public improvement cost.....	11,760.00	11,760.00
Interest on public improvement costs.....	941.00	960.00
Total Cost.....	797,432.00	912,538.00
Selling Price.....	760,000.00	760,000.00
Loss.....	37,432.00	152,538.00

*Basic data from Pennsylvania Railroad Real Estate Department.

†Simple interest at the rate of 4% for 18 years.

‡Compound interest at the rate of 4% for 18 years. Simple and compound interest on taxes computed from the date each tax was due to the end of the period.

§Average tax \$10,000 a year.

¶Since the Pennsylvania and Long Island Railroad did not include simple interest on taxes, cost of public improvements, (i. e., trunk sewers in the land), and interest on public improvements in the data which it furnished, its results showed a profit of \$43,669.00 rather than a loss. The public improvement cost for the site was available in material given by Ralph Eberlin, Chief Engineer, City Housing Corporation. The interest items were computed by applying the 4% interest rate to specific items over the periods for which it applied.

loss instead of a gain occurred is pertinent when it is recognized that the Railroad held the land intact only six years longer than Frederick Morgenthau held the last of the various parcels which he sold.

The original cost of the land to the Pennsylvania Railroad was 20 cents a square foot. Production costs for this land were 38.3 cents a square foot, or 191% of the original cost. Since selling price was 242% and production costs plus original cost were 291%, a loss of 49% of cost occurred, when compound interest

¹² The data furnished by the Railroad showed a gain rather than a loss (Table III, n. ¶). In this study in ascertaining total cost the public improvement cost, compound interest on public improvements, and compound interest on taxes were included and this amount was deducted from selling price, so that it helped to produce

is used to measure "indirect" costs (Table IV). However, it should be noted that a public improvement cost and compound interest on public improvements were included in this loss, the former adding to the direct and the latter to the indirect costs of the Railroad carrying the site. This is an excellent illustration of the extent to which the indirect costs accrue over a long period of time, particularly when, in contrast to the Morgenthau tract, no parcels of land were sold during the period. Thus when the actual sale of land took place a loss rather than a gain resulted.

TABLE IV. DIRECT AND INDIRECT COSTS OF CARRYING VACANT LAND AT SUNNYSIDE, L. I. INCURRED BY PENNSYLVANIA AND LONG ISLAND RAILROAD, 1906-1924.*

	Total Amount (in dollars)	Amount per Square Foot (in cents)	Percentage of Original Cost
Original Cost†.....	\$313,419.00	20.0	100.00%
Compound interest on capital invested.....	319,687.00	20.4	101.99
Taxes for 18 years §.....	180,000.00	11.5	57.43
Compound interest on taxes‡.....	86,712.00	5.5	27.67
Public improvement cost.....	11,760.00	.8	3.75
Compound interest on public improvements.....	960.00	.1	.31
Production Cost.....	599,119.00	38.3	191.15
Total Cost.....	912,538.00	58.3	291.16
Selling Price.....	760,000.00	48.6	242.49
Loss.....	152,538.00	9.7	48.67

*Basic data from Pennsylvania Railroad Real Estate Department. 1,564,158 usable sq. ft.

†Included \$12,000 expense of assembling and \$3,819.00 cost of clearing title.

‡Compound interest at the rate of 4% for 18 years. Compound interest on taxes computed from the date each tax was due to end of the period.

§Average taxes \$10,000 a year.

Since a rapid increase in land values in the First Ward of the Borough of Queens came after 1924 and vacant land in the vicinity materially increased in value after that date, had the Railroad sold the site, let us say in 1926, the consideration received would likely have

the "loss" shown in Tables III and IV. The public improvements were in the land at the date it was sold to City Housing Corporation in 1924. These represent 1,960 feet of sewer (weighted) at \$6 a linear foot, the cost of a normal 15" sewer.

been great enough to insure a profit, even computing interest on a compound basis.¹³ On the other hand, had the City Housing Corporation had to pay a much higher price for the land, it would have been detrimental to the success of Sunnyside Gardens.

Vacant Land Sold at Sunnyside. From 1925 to the present, City Housing Corporation has sold parcels of vacant land at Sunnyside amounting to 671,404 square feet of net usable area (Table V).¹⁴ The cost of this land was approximately 50 cents a square foot.¹⁵ Production costs totalled 15 cents a square foot, and the land was sold at \$1.62 a square foot resulting in a large profit, used in

¹³ Land in the First Ward of the Borough of Queens had an assessed valuation in 1924 of \$90,130,845. Between 1924 and 1926 an increase of 17% took place and by 1931 assessed valuations had doubled (Data from Department of Taxes and Assessments, Queens, Long Island).

In a section of his study, Mr. Arner estimates vacant land values in the Borough of Queens in 1921 as approximately \$343,500,000. In 1926 an estimate made following the same procedure and using the same parcels of land as those adopted by Mr. Arner was \$626,876,000. In the former instance, the value was 296% of the 1906 value, in the latter case 540%. This gives some indication of the rapidity with which vacant land values increased in the Borough. (Arner, *op. cit.*, p. 575 and *Population, Land Values and Government* (New York: Regional Plan of New York and Its Environs, 1929), p. 190.

¹⁴ Net usable area represents land available after deduction of space for streets. This deduction was 31.38% of the gross acreage.

Of the 671,404 square feet of net usable land sold as "vacant" by City Housing Corporation, 343,561 square feet or 51% are yet without building improvements. This means then that this land is still in the process of "ripening" into an urban use. The improvements on the land which has been used consist for the most part of two-story brick row houses. However, on Skillman Avenue, Foster Avenue and Queens Boulevard three-story apartment buildings have been erected; one parcel has been used for the Sunnyside Theatre, and one for the Dutch Reformed Church.

¹⁵ The original cost of the land in each block or parcel of land at Sunnyside was ascertained as follows:

(1) The number of square feet were found for the block or parcel of land; (2) The result was weighted according to the relative location of the area with respect to important streets and avenues; (3) The cost price was allocated to the land on the basis of number of weighted square feet.

further development of housing at Radburn, New Jersey, the second project of the City Housing Corporation.

One explanation of this profit is the low indirect cost, resulting from the

TABLE V. DIRECT AND INDIRECT COSTS OF CARRYING VACANT LAND WHICH WAS SOLD BY CITY HOUSING CORPORATION, IN SUNNYSIDE, L. I.*

	Total Amount (in dollars)	Amount per Square Foot (in cents)	Percentage of Original Cost
Original Cost.....	\$ 336,901.84	50.1	100.00%
Simple interest on capital invested†...	48,806.19	7.3	14.49
Taxes‡.....	29,860.50	4.5	8.87
Simple interest on taxes§.....	3,835.70	.6	1.12
Public improvements||	20,000.00	3.0	5.94
Simple interest on public improvements¶.....	880.00	.1	.26
Production Costs....	\$103,382.39	15.5	30.68
Total Cost||.....	440,284.23	65.6	130.68
Selling Price.....	1,087,070.00	161.9	322.65
Profit.....	\$646,785.77	96.3	191.97

*Data from files of City Housing Corporation, S. L. 2 and S. L. 3, from Department of Taxes and Assessments, Borough of Queens, N. Y. and from Ralph Eberlin, Chief Engineer, City Housing Corporation.

This land includes 671,404 square feet of net usable area. Sales occurred in the years 1925, 1926, 1927, 1928, 1930, and September, 1931.

†Simple interest at the rate of 6% for the period during which each parcel of land was held.

§Simple interest on taxes at the rate of 6%, computed from the date when each tax became due to the date of sale; simple interest on public improvements at 6% to the date of sale.

‡Taxes ascertained by applying the tax rates to the assessed valuations of the land under consideration.

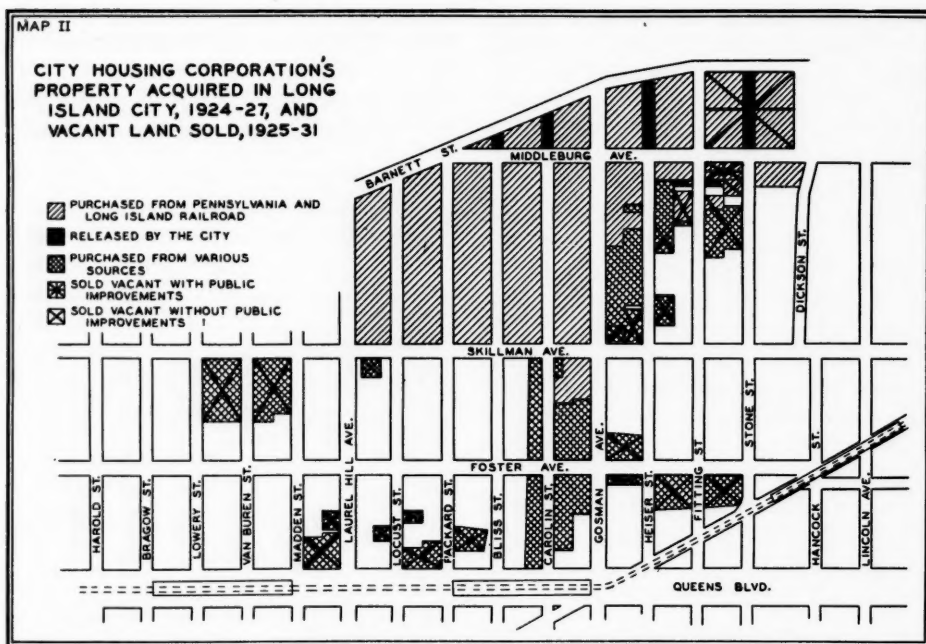
§Includes two parcels of land partly improved (184,043 square feet of net usable area improved to the extent of \$15,000 and 20,000 square feet improved to the extent of \$5,000). These amounts embrace a proportionate share of the excess sewer cost of the Middleburg Avenue trunk sewer.

¶One sale of 15,500 square feet occurring in January, 1929 has been omitted. In payment for this land City Housing Corporation accepted a small amount in cash and a purchase money mortgage which was later subordinated to a first mortgage. Because of the risk to the Company, the consideration was inordinately high. In January, 1931 it was necessary for the Corporation to repurchase the land for a small sum agreeable to the vendee and to hold it subject to a first mortgage on the land and building.

It should be noted that in "total cost" no provision has been made for selling expense or legal expense.

short period during which the land was held. The majority of the parcels sold were owned by the Corporation 1½ years or less. About ⅓ of the total area was held about six years, and four small parcels were held between two and four years, respectively. Thus, production costs were prevented from accumulating for any length of time.

In addition, direct costs are low because of small public improvement costs,



since $\frac{2}{3}$ of the property was sold unimproved, and the remaining $\frac{1}{3}$ only partly improved by City Housing Corporation (See Map II).

Then, too, the Company benefited materially by the general upward movement of land values in the First Ward of the Borough of Queens and an increment in land values created by its own activities in the vicinity. All these factors contributed to large profits from the Corporation's sales of vacant land.

Production Costs of Land Now Constituting Sunnyside Gardens

Construction of buildings and a large part of the public improvements at Sunnyside took place over the five-year period 1924 through 1928. Thus the project was completed in this brief time, with the exception of certain public im-

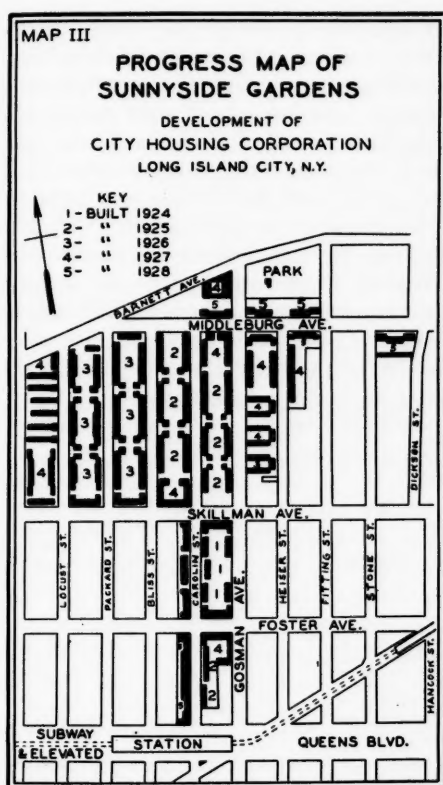
¹⁶ In August, 1931 over 10% of the public improvements were still to be completed. These included improvements not only in Sunnyside Gardens but in the

improvements which were built after 1928.¹⁶

Producing Urban Land at Sunnyside. To produce urban land necessitates the converting of unimproved acreage into urban sites. At Sunnyside Gardens land was considered to be ready for urban use as soon as building construction began. Construction was undertaken in five separate units, the first unit in 1924 and the other four approximately in the four years which followed through 1928 (See Map III). Thus the production costs were computed for the land used for each unit, up to the year when building construction began. After that all costs involved for each year were considered to be part of the building construction cost of Sunnyside Gardens.

This policy has been followed in this study with one exception. Total public

vacant land which was sold "with public improvements." The City Housing Corporation has followed a policy of constructing public improvements only to the extent needed at any one time.



Individual garages are located in the area between Barnett and Middleburg Avenues.

improvement costs have been considered to be production costs, even though actual work was undertaken after building construction was well under way. The reason for this deviation from the actual procedure of the Corporation is that land is not completely ready for urban use until public improvements are installed, so that the costs involved for

¹⁷ The cost of the vacant land sold by the Company was \$336,901.84. In addition, there was an amount of \$16,304.77, the cost of a parcel of land sold by the company and repurchased (Table V, n. ¶). The cost of the land which now constitutes Sunnyside Gardens, including the two parcels of land which are still held vacant, was \$859,581.04.

¹⁸ Land for streets is either ceded to the city by the owners, or vested in the city through condemnation proceedings (*New York City Charter*, Ash, Mark, 1925, §§970, 971).

these improvements are rightly considered to be production costs of urban land.

Unimproved Land Cost. The cost of the unimproved land which now constitutes Sunnyside Gardens was 53.6 cents a square foot (Table VI). The major portion of the land was purchased from the Stuyvesant Realty Company representing the Pennsylvania and Long

TABLE VI. PRODUCTION COSTS OF URBAN LAND FOR SUNNYSIDE GARDENS, L. I., 1924-1928.*

	Total Amount (in dollars)	Amount per Square Foot† (in cents)	Percentage of Original Cost
Original Cost‡	\$ 859,581.04	53.6	100.00%
Simple interest on capital invested§	102,493.29	6.4	11.93
Taxes¶	43,302.47	2.7	5.04
Simple interest on taxes§	4,990.89	.3	.58
Public improvement cost	376,144.79	23.4	43.76
Simple interest on public improvements§	7,485.40	.5	.86
Production Costs.....	534,416.84	33.3	62.17
Total Cost.....	\$1,393,997.88	86.9	162.17

*Data from files of the City Housing Corporation.

†1,604,549 square feet of usable land in Sunnyside Gardens. \$878,859.04 purchase price of land minus \$19,278.00 value of trunk sewers in the land.

‡Simple interest at the rate of 6% to date of the beginning of building construction in each unit.

§Simple interest on taxes at the rate of 6%, computed from the dates when they became due to the date of construction; simple interest on public improvements at 6% to date of construction.

¶Taxes ascertained by applying the tax rates to the assessed valuations of the land under consideration (Department of Taxes and Assessments, Queens, L. I.)

Island Railroad. Additional purchases were made from 28 other sources. However, a large portion of this was sold as vacant land.¹⁷

The City of New York allowed the Company to close Bliss Street, Carolin Street, Heiser Street, and Stone Street between Middleburg and Barnett Avenues and to add those parcels of land to the net usable area at Sunnyside.¹⁸

The Company made application to the Commissioners of the Sinking Fund, City of New York, for the releases of Bliss, Carolin, Heiser and Stone Streets between Middleburg and Barnett Avenues. The land for Bliss, Carolin and Stone Streets had been ceded to the City by former owners without charge. The land for Heiser Street had been obtained by the City through condemnation proceedings with compensation to the owners affected. Because of this distinction, City

(Footnote 18 continued on page 52)

Indirect Costs of Land. Indirect costs at Sunnyside Gardens were small. They included simple interest on: (a) capital invested; (b) taxes; and (c) public improvements (Table VI). Altogether they total only 7.2 cents a square foot, or approximately 23% of the unimproved land cost. This percentage can be explained in terms of the rapidity with which construction of buildings took place. Thus in 1924, when the first unit was started, all indirect costs for the land used therefor began to be considered part of the building construction costs of the City Housing Corporation. The following year the same procedure was followed for the second unit so that by the beginning of 1928 all "indirect" costs on the land constituting Sunnyside Gardens had been cared for in this manner. Therefore, the longest period during which any of the "indirect" costs accumulated was four years, 1924 to the beginning of 1928.

Direct Costs of Land—Taxes and Public Improvements. Taxes were only 5% of the unimproved land costs. These were low for the same reason that the indirect costs were small—namely, as soon as construction was undertaken in each unit, they were considered to be building construction costs.

Public improvements at the date of purchase were few. For the most part these consisted of sewers, construction of which had been undertaken in the latter part of 1921. Four thousand eighty-three linear feet of this pipe

(Footnote 18 continued from page 51)

Housing Corporation obtained the release of the ceded land for the nominal consideration of \$100.00 for each of the three streets and additional amounts of \$12.50 each for the drawing of the three sets of necessary papers. In the case of the land constituting Heiser Street, however, inasmuch as the City had expended money to get the area, it was considered essential to charge City Housing Corporation this amount which was \$5,312.64 plus \$12.50 for the preparation of the necessary papers. (See copy of resolution adopted by

serves City Housing Corporation property, of which 3,213 weighted linear feet are chargeable to City Housing Corporation on the basis of benefit received.¹⁹ The lesser number of the latter as compared with the former may be accounted for in terms of the process of weighting. This involved an application of the degree of benefit of the sewer to the City Housing Corporation property; i. e., if $\frac{1}{2}$ the street were benefited, the weight was $\frac{1}{2}$, and if the whole street were benefited the weight was 1 (Table VII).

TABLE VII. EVALUATION OF TRUNK SEWERS IN THE LAND PURCHASED BY CITY HOUSING CORPORATION, APRIL, 1924.*

Location	Number of Linear Feet	Weights According to Degree of Benefit to City Housing Corporation Property	Weighted Feet (Linear Feet X Weights)	Cost (Based on Weighted Feet)
Foster Avenue...	365	$\frac{1}{2}$	365	\$2,190
Skillman Avenue...	352	$\frac{1}{2}$	176	1,056
Skillman Avenue...	948	1	948	5,688
Packard Street...	1,030	1	1,030	6,180
Laurel Hill Avenue	848	$\frac{1}{2}$	424	2,544
Barnett Avenue...	540	$\frac{1}{2}$	270	1,620
Total.....			3,213	\$19,278

*Data from Ralph Eberlin, Chief Engineer, City Housing Corporation.

The cost of these sewers (\$19,278.00) had been assessed against the property benefited. These assessments had been completely paid before the Corporation assumed title to the property, so that this cost was included in the purchase price of the land paid by the Company.²⁰ The City Housing Corporation obtained permission from the City of New York to do its own public improvement construction.²¹ This was advantageous from the Commissioners of the Sinking Fund, January 12, 1927.)

¹⁹ These sewers vary in diameter from 12" to 51", depending upon the character of the area which is being served. A 15" lateral pipe is normally adequate for a street with housing facilities similar to those found at Sunnyside.

²⁰ Files of City Housing Corporation, S. L. 2.

²¹ All public improvement construction has been done by the Company with the exception of the trunk

(Footnote 21 continued on page 53)

several points of view: (a) it enabled a good part of the public improvements to be finished or partly completed when the homes were ready for sale, a point which facilitates the marketing of homes; (b) it made possible the inclusion of public improvement cost in the "all in one monthly payment" and prevented the home purchaser from being subjected to further assessment for these improvements;²² (c) because of the large scale of the operation, it enabled the Company to construct the improvements as cheaply or more cheaply than would have been possible for the City of New York.²³

The City Housing Corporation expended 23.44 cents a square foot on public improvements (Table VIII).²⁴ When this cost is itemized, cost of paving is found to constitute almost $\frac{1}{2}$ the total (Table VIII). The other 50% of the cost includes money expended for highway excavation, sewers, curbs, and sidewalks.²⁵

Public improvements were built in accordance with the specifications for paving, sewers, etc., which are controlled by the Bureau of Highways and Bureau of Sewers of the Borough of

TABLE VIII. COSTS TO CITY HOUSING CORPORATION OF PUBLIC IMPROVEMENTS AT SUNNYSIDE, L. I.*

Public Improvements	Cost	Cost per Square Foot (in cents)†	Percentage of Total Cost
All Improvements.....	\$423,926.00‡	23.4	100.00%
Highway excavation.....	50,115.00	2.8	11.82
Sewers (combination storm and sanitary sewers).....	98,728.00‡	5.5	23.29
Paving highways.....	211,182.00	11.7	49.82
Curbs.....	27,084.00	1.5	6.38
Sidewalks.....	36,817.00	2.0	8.69

*Data from Ralph Eberlin, Chief Engineer, City Housing Corporation.

†1,808,372 square feet of usable land.

‡Includes trunk sewers, valued at \$19,278.00 in the land at date of purchase.

Queens. City Housing Corporation might have installed improvements of different and less expensive type than those generally specified. However, by conforming to the specifications, the Company was relieved of the maintenance of improvements, inasmuch as public improvements, within the city limits, which conform to the standard specifications are maintained by the City of New York.

Factors Contributing to Low Urban Land Costs at Sunnyside

The costs incurred by the City Housing Corporation in changing land from agricultural to urban use were extremely

This obviated the necessity of purchasing "fill" or arranging for a "dump." Furthermore, it reduced the average haul to about 900 ft. (Data from Engineering Department of City Housing Corporation.)

²⁴ Table VIII presents the public improvement cost for all land improved by City Housing Corporation, some of which was sold. On the other hand, Table VII shows only the cost of public improvements for the land now constituting Sunnyside Gardens.

²⁵ In this amount is included the expense of a trunk sewer built in Middleburg Avenue, specified by the Bureau of Sewers of the Borough of Queens. A lateral 15" sewer would have been sufficient to serve City Housing Corporation's property. However, it was more economical for the Corporation to construct the trunk sewer than to construct a 15" sewer, and at a later date have the latter replaced by a trunk sewer by the City of New York, with consequent inconvenience of tearing up of paving and additional expense in the form of special assessments. Had the smaller sewer been built, the total public improvement cost would have been 22.19 cents a square foot instead of 23.44 cents.

(Footnote 21 continued from page 52)

sewers in the property at the time of purchase and \$5,927.00 of improvements done by the City of New York and assessed against the property of the Corporation. (Data from Engineering Department of City Housing Corporation.)

²² At Sunnyside Gardens houses are sold with a down payment of 10% of the purchase price with a first mortgage running for five years upon which there is no amortization, and a second mortgage amortized monthly over a period covering 13 to 14 years after the initial payment has been made. The amortization of the second mortgage and the carrying charges are met by what is known as an "all in one monthly" payment by the home purchaser to the City Housing Corporation.

²³ "Most subdividers seem to agree that if the developer has sufficient resources, he can install the improvements cheaper than can the municipality." (Theobald, A. D., *Financial Aspects of Subdivision Development* (Chicago: Institute for Economic Research, 1930)). Economies were realized through careful planning, inasmuch as the Company was enabled to use the material excavated for "fill" where the ground was low.

low. Factors which contributed to this result were: (a) purchase of the site before the rapid upward swing in market values of real estate took place for the First Ward of the Borough of Queens, so that the unimproved land cost for the project was low; (b) rapid construction and sale of properties which made it possible to consider direct and indirect costs during construction as building construction costs, and therefore, the production costs did not accumulate over a long period of time; (c) careful planning of public improvements in order to have them available when needed and not before. As a result, no loss of interest on public improvements has occurred through their premature construction. Also, City Housing Corporation benefited from certain economies in construction, inasmuch as the City of New York allowed the Company to build its own improvements.

Production Costs—Profit Determining

To purchase a piece of land and to hold it for an increase in value has appealed to a large number of investors. Too often the fact that direct and indirect costs accumulate year by year is overlooked. Thus, when the land is sold the difference between selling price and first cost is called an increment in value without sufficient weight being given to production costs of land. It is apparent from this discussion that these latter costs may accumulate so rapidly as not only to absorb all increment but to produce a decrement. On the other hand, it has also been pointed out that if separate parcels of a large holding are marketed through a number of years, production costs are materially reduced to the owners and a profit on the undertaking becomes more probable.

Production costs are as important in real estate operation as in investment. The fact that an operator has to hold land

vacant for a number of years may entail costs which more than offset any profits on the land when he eventually sells it.

Thus, an experienced operator takes advantage of opportunities to dispose of vacant land. If he finds that market prices are rising and that his own activities are contributing to this movement, he sells parcels of land from time to time for the purpose of realizing upon some of the land increment. In this manner he may sacrifice maximum profits which he could make at the peak of market prices. On the other hand, he protects himself from having to carry the land for a long period of time and from a sudden drop in the market price of real estate. This policy of selling parcels of land throughout a number of years in a favorable real estate market was followed by City Housing Corporation at Sunnyside.

In addition a combination of favorable circumstances enabled the Company to produce urban sites which it could use for building purposes immediately upon their completion, and thereby materially reduced both the indirect and direct costs of these sites.

Through these two methods, i. e., through selling parcels of vacant land from time to time and through rapid disposal of improved urban sites, the City Housing Corporation was enabled to effect the desired result, namely low production costs of urban land.

After the urban sites were produced the City Housing Corporation constructed building improvements in Sunnyside Gardens. The cost of the latter and the former together give the completed cost of the project. This total cost of Sunnyside Gardens and the individual items constituting construction cost will be discussed in a second article to be published in the following issue of the *Journal*.

Financial Planning—A Management and Regulatory Tool

By IRWIN S. ROSENBAUM

COMMISSION regulation of utility and carrier financing was born in the same political brood as rate and service regulation, but it has had a far less auspicious life.¹ Financial regulation has been less spectacular, and therefore less regarded by the public; it has been equally misunderstood, and therefore equally abused. Just as commissions have turned to the arbitrary standard of a return on property values to determine the reasonableness of rates, so have they taken up the equally arbitrary standards of the cost or value of property as a criterion of reasonable financing. In both cases they fail to see the complex industrial facts and their view is a distorted one. Financial regulation must make an about face; it must recognize that its duty is to review the reasonableness of the operator's judgment and that the factors of this judgment do not and cannot rest on merely the value or cost of the plant. It must regard the life cycle of the industry, the place of the company in the

industry, its operations, past, present, future, its financial structure and policies. These are the elements of a reasoned financial plan.

Financial Regulation Described

Regulation of utility and carrier security issues was originally confined to charter provisions and general statutes. Charters were wont to limit such matters as the amount of securities issuable, the capital set-up, the sale price. The limitations were generally strict and alterable only by legislative action. With the movement from special charters granted by the legislature to general incorporation laws came the shift from these special limitations to generalized statutory enactments. Provisions limiting the selling price to par, the consideration to cash or property, and the ratio of bonded debt to capitalization were broadened to cover carriers and utilities, as well as general industrial corporations. Next came administrative control of financing, in the general industrial field by blue sky commissions and in the utility and carrier field by the existing regulatory commissions.²

¹ New York furnishes an illustration of its early birth and subsequent growth. The Board of Railroad Commissioners of the State was created in 1882 and was given control of railroad security issues along with its other powers. In 1905, the Gas Commission was given power to certify "the amount of stocks and bonds reasonably required" by gas and electric companies. In 1907, the entire regulatory system was recast under the Public Service Commission Law and the security issue provisions were redrafted by specifying purposes for which securities might be issued. Except for minor amendments, these are the provisions as they now stand. In 1910, the Commission was given jurisdiction over telegraph and telephone securities, and in 1913 over steam heating corporations. (For a summary of the history and work of the New York Commissions, see 37 *Yale Law Journal* 716 (April, 1928); *Ibid.*, p. 908 (May, 1928).

In a few other jurisdictions, notably in Massachusetts, commission control of security issues may be traced back to the latter part of the last century. But not until the passage of the New York Public Service Commission Laws in 1907 did regulation of finance take final form. Approximately half of the statutes establishing regulatory commissions during the next decade contained provisions regulating security issues. See Maurice C. Waltersdorf, "State Control of Utility Capitalization," 37 *Yale Law Journal* 337 (January, 1928.)

² The Kansas blue sky laws of 1911 and 1913 instituted a new method of security regulation which has spread to most states. This type of law aims to protect the investor from fraud and unsound industrial

(Footnote 2 continued on page 58)

The laws governing commission regulation of public utility and carriers' securities are of three types. The first and rarest provides merely for publicity of corporate and financial facts.³ This type closely resembles the blue sky law, inasmuch as it may be construed as merely seeking to protect the investor. It may have, however, a broader significance in relying on publicity and public opinion to deter "over-capitalization." The other two types of laws give commissions the duty of checking capitalization, the one setting up merely a general standard of reasonableness, the other more specifically and strictly defining the purposes for which the corporation may issue its securities. The New York act is an example of the latter type and is the one generally followed.⁴ The purposes of security issues authorized by it are: (1) acquisition of property, (2) construction, completion, extension or improvement of facilities, (3) improvement or maintenance of service, (4) discharge or refunding of obligations, and (5) reimbursement of the treasury. Before a company may

issue its securities it must obtain from the commission a finding that the proceeds are to be used for one of these purposes. Some variety exists in the wording of statutes of this kind but generally the commission is not limited to a mere consideration of purposes, it may also consider the reasonableness of the use of the funds. The commission's discretion, however, is undoubtedly more limited than under the "reasonableness" type of statute. This latter type of act does not specifically state the purposes to which security issues are limited but applies the general standard of reasonableness traditionally used in rate and service regulation.⁵

Purposes and Effect of Regulation

Should commissions regulate by publicity; should they go farther and inquire into the purpose of the issue, but stop when they are satisfied that the proceeds are used for a "capital purpose"; or should they really undertake to see the entire financial picture and judge an issue by the economic test of sound

(Footnote 2 continued from page 55)

investment. Blue sky laws may be classified into two types: (1) those imposing punishment on fraudulent transactions; and (2) those directly regulating the issuance or sale of the securities. This second type of law seeks to prevent fraud by requiring the licensing of dealers, or by providing for approval of security issues by a commission or other officials. In some instances the law provides for both the licensing of dealers and approval of security issues. This regulatory kind of statute is more common than the mere criminal type. Under both of them, however, the usual practice is to exempt carrier and utility securities which fall under the control of commissions. The blue sky laws were designed primarily to protect the investor from fraud; the commission acts regulating utilities and carriers sought to prevent over-capitalization by the companies. The urge of utility and carriers security regulation was to protect the consumer rather than the investor. A direct relation was felt to exist between the financing of the company, its capitalization, and the quality of service and amount of charges for that service. This difference in original aims goes far to describe the difference in the development of regulation of industrial financing, compared with that of utilities and carriers.

³ The only two states with the publicity type of regulation are Pennsylvania and Virginia. The Pennsylvania act provides for submission of a verified certificate of notification which is filed as a public record. This certificate is designed to give information of the past capitalization of the company and the present issue. In cases of consolidation, merger, and reorganization, the commission is authorized on request to fix a value of the enterprise as a basis for capitalization. But the commission has no power to deny the right to issue securities. It acts merely as a publicity agency to protect against fraudulent non-disclosure.

⁴ For a typical section of the New York law applying to common carriers see section 55 of the New York Public Service Law, N. Y. Laws 1907, c. 429, as amended by N. Y. Laws 1930, c. 781, N. Y. Laws 1929, c. 687, and N. Y. Laws 1921, c. 134.

⁵ An example of this type of statute is section 20a of the Transportation Act of 1920 which provides that the Interstate Commerce Commission may approve an issue if it is "for some lawful object within the corporate purposes, and compatible with the public interest, which is necessary or appropriate for, or consistent with the proper performance by the carrier of service to the public as a common carrier, and which will not impair its ability to perform that service, and is reasonably necessary and appropriate for such purposes."

financing? For answer we must know the aim of financial regulation, to what extent it seeks to aid the investor, the creditor, the consuming and general public, and the company itself.

The Investor. Regulation says one of three things to the investor: (1) "Here are the facts; choose for yourself"; (2) "The proceeds of this issue are to be devoted to capital goods, to that extent you are safe"; (3) "We believe that the management has acted intelligently in this financing."

It is sometimes debated if commissions do or should give more than any one of these three admonitions and actually hold out a guarantee of the soundness of the investment. Commissions and legislatures have repeatedly disavowed any such purpose and have refused to bind themselves to back up securities with earnings in a subsequent rate case. But even if they did try, they could not guarantee an investment. If the risks incident to ownership materialize, such as competition by substitute service or mismanagement, the commission is powerless to help the investor. Nor can the commission tell the investor that he is buying the proper security for his peculiar needs. The most that the commission can do is to say that the financial transactions of the company are not obviously unsound, and this much it should do.

Rate and service regulation is here probably to stay, and both rates and service are inseparably bound up with financing. The commission should regulate all phases if it regulates any, so as to grasp the broad, interrelated, industrial facts. Mere publicity falls short of this need. It means that commissions throw financial control over to the investor and the public. As merely a means of bringing facts before the investors and the public, regulation by publicity methods

now in use would be inadequate. Facts are revealed only at the time of issuance of securities, and these give little light to future investors and creditors other than a view of the altered past. Even if publicity methods were changed to give current information, they would be largely a duplication of what is now obtainable in business service publications.

Commissions generally want to do more than give the investor a run for his money, and yet they do not want to stake him for a sure bet. They tell him that the proceeds of the issue are to be devoted to paying for capital assets. But, as a matter of fact, the financing even though for capital purposes may be a gross abuse. The industry may be overbuilt, extensions may be uneconomic, the earning power of the company may be weak, the financial position or structure of the company may be insecure. Ordinarily these questions have not been fully considered by the commission. The investor, however, may be lulled to sleep by the commission's garbled blessing.

What the investor is interested in knowing and the commission capable of considering is the economic wisdom of the financing. The investor does not expect the commission to devise or stand responsible for the company's policy, but he would like to have the commission check on the opinion of the company, and this revisory check can best be applied under a standard of reasonable business practice.

Creditors. Creditors, both funded security holders and others, are also vitally interested in the reasonableness of a company's financial transactions. Outstanding credit is buried with the past; what they need to know is of the present and future. Adequate publicity is needed to warn them of prospective changes, but of these they probably

have enough from other sources. The fact that capital funds will be used to purchase capital assets is of slight value to allay the creditor's fears. What he really wants, and therefore what is best for the company's credit, is some assurance that management will exercise reasonable judgment in its future financing. Commissions, of course, are not omniscient bodies; they may make mistakes but, if they adopt sound regulatory principles which really fit business practice, they may do much good as a check on industry's plans. Only by a flexible standard of reasonableness can they judge financial transactions.

The Consuming and General Public. Consumers of service are interested in the capital financing of a company in so far as it affects the quality of service offered them and the price they have to pay. One group declares that capitalization has no effect on rates or service because rates are not, or should not be, determined by cost of capital assets.

Others of the same view point out that fair return on value and not actual capital costs is the basis of rate-making. The opposing group declares that this contention is "absurd." They say that rates and service are affected by financial operations in the following manners: (1) Rates are not fixed by an automatic process of valuation but largely by desire and discretion. A management, faced with heavy fixed charges and dividend expectations as a result of excessive security issues, may refuse to reduce rates, even though in the long run increased returns might result. (2) Similarly, such a management will tend to reduce extension of facilities and maintenance, to the possible detriment of service.

Undoubtedly rates are not actually fixed on a fair value basis. This is a merely legal limit and is called into play

only in rare instances. Economic forces of competition, substitution, education, and the like are more powerful actually in fixing rates. The desire to promote greater or additional uses tends to encourage rate reductions. These are our so-called promotional rates, and they are often a daring venture. Management must think twice before jeopardizing its present income for a possible future gain to itself and its consumers. But why be more solicitous about this matter in financial regulation than in rate regulation itself? Here commissions may adjust rates to bring a fair return, but generally under current theories they cannot legally require a rate which will impair the return, even though in the long run it will be beneficial to all concerned.

If they cannot do this by rate regulation, how may they hope to do it by capitalization control? By keeping down interest charges and dividend requirements, it is said. If this means merely prescribing capital purposes for which securities may be issued, it will fail in its aim because an expenditure, although for a capital purpose, may be wholly unwise and burdensome. What is meant is that capitalization must be at a level warranted by general industrial facts and the particular business situation.

It is generally assumed by those in favor of financial regulation that control of rates and security issues may somehow be correlated. Under current methods of regulation, however, there seems to be little hope for this. The reasons may be summarized as follows:

(1) Under current methods of rate regulation rates are fixed by a return on estimated value. Outstanding or prospective security issues are largely, if not entirely, disregarded. No relation exists between regulated rates and capital cost of the enterprise.

(2) Financial regulation as now prac-

ticed likewise does not attempt except in rare cases to bring together rate-making methods and financial regulation. It seldom uses the same valuation for capital structure and rate-making.

(3) But it is just as well that financial regulation is not tied down to the valuation used as a rate-base. These methods of rate-making on the basis of property values do not deal with economic realities and to base capitalization on them would only further encumber the industrial process.

(4) A sound method of rate regulation requires consideration not of property values, but of demand and supply conditions, costs both operating and capital, consumer psychology, and public policy.

(5) Capital costs, therefore, have some relation to the reasonableness of rates, but they are merely one factor, and they are subordinate to the marketing phase. Capital costs, together with other costs, form merely a possible minimum but even this low level may be cut into if future uses and volumes will be sufficiently stimulated to give a counterbalancing return, or where adverse business conditions demand it.

(6) Financial regulation, like rate regulation, has failed to adopt a standard which regards the industrial facts and the relation between capital costs and rates. It, therefore, has destroyed even the possibility of correlating the two.

(7) The defects in security regulation have been two-fold: (a) commissions have been unduly restricted to considering merely the purpose of the issue and not the broad industrial and economic picture; (b) even when they have looked at all business phases they have either voluntarily or by compulsion taken as a measure of capital securities one of two arbitrary and irrelevant figures—the cost, or the value of the property.

There is some weight in the argument

that service may be adversely affected by defective financing. Moneys that ought to be applied to maintenance, improvements, or reserves may be used to support a top-heavy financial structure or an unwise dividend policy. But financial regulation as now practiced will not guard against these evils because commissions now emphasize too strongly the cost or value of the assets of the company. So long as the financing of utilities is done in the money markets, commissions must look to market conditions; so long as utilities sell their services as they now do, commissions must look to actual operating conditions. Only by such means can they arrive at an economic financial set-up which will insure improvement of services and lowering of costs. Consumers can best be protected from exorbitant rates or defective service by direct regulation of these things. Financial regulation is justified in its own right because financing is an integral part of the business and should be regulated if anything is.

The sane view of the matter is that returns from service and for financing are interrelated methods of getting in money, and that costs of operation and costs of financing are two interrelated methods of giving it out. Regulation, to be effective, must analyze both sources of income and both sources of outgo plus the entire business situation. What is needed is a standard of reasonableness and a planning of rates, service, and financial methods by both industry and regulatory bodies.

Management of public utility companies can expect of financial regulation principally that it will focus their attention on the long-term results of their policies and will discourage mere opportunism. Besides, it may stand as a revisory check on their judgments. Publicity, of course, may result in healthy

exposure of facts, but this is not enough. Regulation will be most useful if it acts in a broad revisory capacity over management's rates, service, and financial decisions. This means that commissions must abandon the fictitious standards of "capital purposes" and adopt a method which turns to industrial reality. Financial planning as an industrial and regulatory device affords such a tool.

*Cost as a Measure of Capitalization:
Views of the Layman, the Accountant,
and the Lawyer*

Where did the cost theory come from? If we know in whose mind the doctrine was evolved and how it grew, its work may be better evaluated.

The Layman's View. Probably the cost theory had its roots in the unsophisticated layman's view of buying and selling things for consumption. Just as the layman buys a suit of clothes and uses it, so does the electric company buy a generator and use it. The layman earns or borrows money to buy his clothes, the corporation sells its product or borrows to buy its generator. The two processes, however, are different at least in material degree, and the financial transactions have little or no resemblance. In the one instance consumption is the mediate or immediate aim; in the other, the goods are bought to be used in an operation which seeks to produce further goods. Businesses are built to operate, to grow, to sell things, and all these processes need financing varied in method and amount.

The Accountant's View. The accountant says naively, "Capitalize on the basis of cost, or, to express it more exactly, . . . let capitalization take care of itself under straightforward methods."⁶ The income statement speaks in terms of money income and outgo, either actual or accrued; the balance

sheet is but the evolution of the income statement, and must speak in the same terms. Of course, practical considerations also turn the accountant to the use of actual income and outgo as the basis of balance sheets; such figures are determinable, unchanging, and comparable. Professor Cole says that normally permanent assets equal capital stock and funded debt and deviations from this normal represent over- or undercapitalization. The accountant thus tries to bridge the gap between what he records and what the business man should do in issuing capital securities.

But the assets of a business never did equal its liabilities, except perhaps in that split second of time when the money paid in by the original stockholders is in the hands of promoters who have claimed no fees, made no outside obligations, and bought nothing with the money. Even with the use of cost figures the accountant cannot build up an equality between assets and liabilities except by the use of the convenient, but illusive, fictions of surpluses, reserves, and deficits, and by frequent recourse to write-ups, write-downs, and write-offs. Surely no group of assets balances capital liabilities. The sands of business venture are ever shifting and the business man who rests his policies and acts on accountants' cost figures is standing on a windblown dune which is disappearing beneath him.

The Lawyer's View. The corporation is traditionally regarded by the lawyer as a strictly defined body with unchanging plant and property revolving forever in a fixed orbit. The financial needs of industry are predeterminable and unchanging, and the amount of capital stock and funded debt can be fixed and a dollar sign placed on the shares. Thus costs, the fixed record of capital

⁶ Cole, W. M., *Accounts, Their Construction and Interpretation*, (Boston: Houghton Mifflin Co., 1915).

transactions, are the proper and in fact the only measure of capital security issues.

This approach is contrary to both legal and business practice. Corporate life, death, and change are simple matters of daily occurrence, and the ultra vires doctrine has collapsed before the realistic theory that a corporation may be allowed to do anything a natural person can do. The corporate form has been forced to adapt itself to a fluid rather than static business world. In such an environment the lawyer's cost capitalization ideas cannot survive.

Governmental Cost Theory: Cost Without Reinvested Earnings or Capital Increment

Massachusetts has been one of the most rigid advocates of the original cost basis of capitalization. Its statutory provisions vary between utilities and contain some exceptions to the established policy. But in general the par value of capital stock and the proceeds therefrom have been made equivalent by requiring the sale of securities at not less than par or at a premium. Funded debt has also been strictly limited.

The Massachusetts theory assumes that utilities and carriers are enterprises essentially governmental in nature and should operate on as nearly a non-profit basis as regulation can compel. Cash dividends are countenanced as a cost, but profits, whether in the form of reinvested earnings or capital increment, are banished. A causal chain is assumed to exist between amount of securities, dividends, and rates and an increase in securities issued is assumed to mean an increase in dividend requirement, which in turn results in increased rates. Security issues are kept at a minimum by prohibiting stock and script dividends. For a like purpose stock rights are deprived of part of their value by requiring that subscription

rights to stockholders shall be placed at not less than par value.

In Massachusetts this theory of relation between securities and rates might have some relevance. Here rate regulation has been based on the par value of securities, and an attempt has been made to adjust rates at a point where they will keep the market price of securities at or above par. But the history of Massachusetts regulation shows that the attempt to keep the increment out of the hands of stockholders is futile. Large floating debts have borne the burden of corporate financing, and have formed an "unfunded capitalization;" interest charges have taken the place of dividends. The return on the limited security issue has also been liberal and has created an indirect trading on the equity. It has proved impossible to base rates on the original par value of the stocks because the premium approved by the commission constituted a new par value which the commission could not disregard. These leaks in increment have in turn crept into the security issue rate-base in reorganization, consolidations, and other transfers based on market prices or values.

But the governmental cost theory is not limited to Massachusetts. It has found support in other states by the prohibition of stock dividends and valuable stock rights. It has other aspects which might be listed as follows: (1) Par value of securities should equal or be less than cost of assets; (2) Cost of assets is a proper measure of capitalization; (3) Earned and capital increments may not be capitalized. These aspects of the theory will be taken up later.

Cost Plus Reinvested Earnings

A less stringent variation of the cost doctrine retains the idea that par value must at the start of an enterprise equal

the proceeds of the issue, but allows capitalization of subsequently reinvested earnings. Cost is taken in its broader aspect to include not only original outlay of the investor, but also assets represented by reinvested earnings which the investor has refrained from appropriating to himself. Commissions and legislatures quite generally accept this doctrine.

The first argument leveled against the issuance of stock dividends representing reinvested earnings is that "it is sound financial policy to maintain a surplus as a reserve to equalize dividends over good and bad years and to meet emergency demands."⁷ But this argument is fundamentally fallacious. Payment of dividends deals with cash. The issuance of stock dividends deals wholly with surplus commonly invested in property. Only in the sense that dividend payments may be kept up on the increased capitalization is the cash position at all affected.

The second purpose of prohibiting stock dividends from reinvested earnings is that "it is important to keep a record of the amount of capital contributed by the investor distinct from amounts contributed through earnings by the rate-paying public." The reason for this information is to judge the relation between net earnings and contribution of security holders so as to limit profits and possibly change the valuation basis, and secondly to inform investors. The argument must have in mind the Massachusetts system of rate-making because under existing valuation theories capital securities are given but little weight and must include all securities representing assets on which a return is allowable. The investor is

interested not in the past investment but in the future. Whatever he wishes to know of the past is available in business records of corporate earnings and financial transactions. A differentiation between original investment and reinvested earnings is important to him only as an indication of probable financial and dividend policies.

So much for the arguments against stock dividends; now for those in their favor! In the first place, the ploughing back of earnings is a valuable means of financing and, because of the pressure of stockholders, often can be used only if accompanied by stock dividends which ostensibly represent the assurance of an increase in total cash dividends. In the second place, if used conservatively, stock dividends may be used in an industry with steadily increasing earnings as a means of anticipating the future increase of earnings even if present earnings are not reinvested. Such stock dividends should be used with discretion; but in any case the blanket prohibition against capitalizing reinvested earnings is unsound.

Bauer's Fixed Earnings Method

John Bauer's proposal for rate and financial regulation is essentially an extension of the Massachusetts method.⁸ Bauer aims to correlate the rate-base and the financial structure and put them both in the straight-jacket of costs. The rate-base would equal the original cost of the property less depreciation and would be augmented from time to time by the cost of additions. On the rate-base representing investments prior to the adoption of the scheme Bauer would fix a return of approximately 7%. But in the future the return would be based

⁷ Bonbright, J. C., "Railroad Capitalization, A Study of the Principles of Regulation of Railroad Securities," 95 *Studies in History, Economics, and Public Law*,

Columbia University No. 1, Whole No. 21.5, c. 111.

⁸ Bauer, John, *Effective Regulation of Public Utilities*, (New York: Macmillan Co., 1925).

on actual costs. The charges of bonds and preferred stocks are fixed by the agreement. Bauer proposes that common stocks be required by legislation to bear a similar fixed dividend. Bond and stock discounts and premium would be treated as adjustments of the actual costs. Under this system no par stock would be prohibited. The possible disparity between existing capitalization and the cost appraisal could be eliminated by writing off surplus, readjusting capital stock, or using balancing "valuation adjustment" items on the balance sheet.

This system has the futile purpose of equalizing earnings and costs, both capital and operating. But earnings do not rest in the utility nor any industrial field on a return on the cost of assets, and regulation cannot make them do so.

It is assumed that capital financing may proceed on a "non-speculative" basis; that is, equity shares may be deprived of all hope of profit or increment above a fixed return. This thesis that utilities and carriers are economically and financially peculiar creatures is untenable. The income and capital gain element of common stock investments in utilities cannot be eliminated. Risk is ever present in a widely varying degree, and the needs for expansion cry for a risk-bearing and hence profit-taking and increment-taking security. Besides, the theory contains all the difficulties inherent in the attempt to make cost and par value of securities equivalent.

Capitalization of Surplus

Those commissions which have been granted broad discretion to approve issues on the basis of reasonableness, if they choose, can adopt as their standard not the purpose of an issue, but its relation to the surplus condition of a company. Many decisions of the Interstate Commerce Commission

approve issues as a proper capitalization of surplus. The only requirement is that a reasonable amount of surplus remain. It is not true, however, that all surplus accounts may properly be capitalized, and for a commission to use the book account called "surplus" as a criterion for approval amounts to an abdication of regulatory control. The wisdom of a transfer from surplus to capital account depends on the components and background of every item of the balance sheet, which in turn means a complete survey of the business situation and financial condition of the company. Surplus accounts may be created or destroyed at will by changes in items, by addition or omission of items, by valuation methods, and this is true despite accounting regulation. Judgment must delve deeper into the actual financial facts.

Par Value Theory of Capitalization

The par value theory in its simplest form merely states that capital stock must bear on its face a dollar amount, and that the sum of these par values cannot exceed the net cost of assets bought by the proceeds of their sale. A more flexible view allows the sum of the par values to equal not the cost, but the net value of the assets. In both cases, an attempt is made to equalize par values and capital assets.

Under the cost theory, capital stock cannot be sold for less than par, unless perhaps past or future earnings be used to fill in the discount. And if reinvested earnings be denied as a capitalizable item, as in Massachusetts, even this exception to the rule that the sale price must at least equal par value is banished. The value theory, on the other hand, disregards the cost of assets, except in so far as the cost may be fixed on the basis of its value, as in a purchase and sale transaction. The no-par stock

theory, by removing the dollar sign from capital stock, entirely destroys any supposed equality between cost or value and par value.

The par value idea originates from a primitive notion of the corporation. Corporations were early conceived as institutions created by a special dispensation of the state with powers and activity fixed and limited, and with fixed capital investment. Definiteness was construed to mean a capitalization which was stamped in dollar amounts on the share capital. All these underlying static notions have disappeared since the day of the early governmental or business corporation. Corporate capacities are as broad as the field of individual endeavor and the medium in which they live is as fluid as the shifting waves. The par value sign has lost its early significance but the tradition of fixed par value lives on.

The principal argument on behalf of par value stock is that it affords a "benchmark of the investment"; in other words, it is a readily available figure showing costs and assets. From this figure, investors can gauge the relation between earnings and cost, and determine the wisdom of investing or discontinuing their investment; the public can judge the profits earned in investment; debtors may know their security; management may adjust its policies. But in fact par value has failed entirely in this purpose. As was said by Bonbright:

"The history of security regulation from its commencement in the nineties down to the present time testifies without exception in any state that the attempt to secure even an approximate balance between par values and actual investment is foredoomed to failure. It has resulted in the curbing of investment, as in Texas; in dangerous recourse to bonds because of inability to issue stock at par, as in New York; in the violation of the

principle by undercapitalization, as in Massachusetts; or in the almost complete abandonment of the principle by overcapitalization as in California, and in other western states. Nowhere, has it succeeded; nowhere can a public service commission point to the capitalization of companies under its jurisdiction as an indication of the actual investment in the property."⁹

In the second place, information as to cost of property is available directly from the books of a company and in its balance sheet. And in the third place, as already indicated, cost of assets is not an economic measure of earning power, safety of investment, or financial policy.

The same arguments apply to the usefulness of equalizing value of the assets or business and par amounts. The equivalence does not exist in fact unless by coincidence. This is obvious because value by any standard is a fluctuating amount which varies more radically and oftener than the comparatively inflexible capital issue. Besides, the equivalence is unnecessary. If earnings or sale price be the basis, they may readily be found in the earnings statement or corporate records; if market value of securities, in current quotations. And, if appraised value is the basis, the value itself is nothing more than a glorified and generally useless guess. Par amount is not useful as a "hallmark" of either cost or value of assets of a business.

The second use to which par value of securities might be put is as a base on which to regulate rates. We have referred elsewhere to the unsoundness of the original cost basis of rate-making adopted in Massachusetts, and outside of Massachusetts, where present value and not original cost is the rate-base, the correlation is equally futile. Present value is an impracticable and uneconomic basis for security issue; moreover, it is an uneconomic basis for rate-

⁹ Bonbright, *op. cit.*, p. 6.

making. The correlation of the two cannot make either one useful. Par value may safely be banished from any reckoning of capital structures. Investors do not look on it as representing something real, and they are not deluded if the equivalence to cost or value is abandoned.

Cost—Its Use in Business Transactions

In actual business operation cost is not the determinant of capitalization and financial policy; it is merely one factor of varying importance in a complicated business situation.

Promotion of New Enterprise. One of the first questions asked in promoting a new business is, "How much will it cost?" What is meant by cost is money outlay, and this takes numerous and varied forms. Problems in a promotion, however, are not limited to the lump sum of the cost. Equally vital is the time the expenditure must be made, to whom it goes, how it may be paid or deferred. A plan of costs is needed to give a picture of money outgo.

The next problem, which is quite as important as the cost plan, is the forecast of income from earnings. When will earnings commence, and how will they grow with varying product, price or promotional effort? Matching planned money outgo with earned income gives the difference which must be made up from sources outside the business. Here lies the real problem of financing.

There are three sources of income other than earnings: (1) contributions of entrepreneurs, (2) gifts and subsidies, (3) the money market, consisting of the banker and the securities market. The essence of wise promotion is in the interweaving and adjustment of the various sources; i. e., in planning the income from all sources.

The human factor is also present in promotions. They are dynamic affairs

carried on by human beings with varying motives, generally on a reasonable assumption of making profit. Several sources of profit are available to the promoter: (1) sale of assets to the corporation, (2) fees for services, (3) shares in the company for services. The law is much confused as to whether the first source is open to promoters. One line of cases holds that a promoter cannot profit in his transaction with the corporation even though there be no fraud. Frequent though dangerous evasion of this rule is accomplished by placing inflated values on the assets acquired. The other line of decisions allows the making of a profit, and this we believe to be the sound view. If this is correct, profits may be represented by corporate securities whether the figures on the corporate books be placed at cost to the promoter or to the corporation itself, and further the promoter may receive a greater par or face value of securities than the price to compensate him for foregoing cash. In such case, capitalization breaks away from the cost basis. The same is true if the promoter takes shares instead of cash for his fees. If promoters' shares are permitted, it is highly probable that they will be greater in face or par value than the cash fee. In such a case, they can scarcely be said to represent a cost.

Purchase or Sale. In this transaction original or investment costs are out of the picture; instead there is an exchange, and a bargain for price. The outgo of the purchaser is the price, the cost of completing the transaction, and the cost of making the acquisition useful. On the income side is cash or property of the purchaser and the money market. But the income-outgo figures do not tell of the dynamic motives which impelled the seller to sell and the purchaser to buy.

The seller might wish to dispose of his

entire interest in the enterprise at what he considers a good price; he might be forced to sell in order to gain support for the enterprise; or he might want to give up part of his risks and duties, such as his financial stake or managerial obligation. In any case, he may want compensation by payment immediate or deferred, or by retaining an ownership stake in the enterprise with a possible reward for his forbearance and risk taking. The manner and amount of payment, not the cost of the enterprise to the seller or organizer, are the vital considerations and will determine largely the source to which the buyer must turn. The money market is merely one of several choices, and the issuance of various types of capital securities merely one of the varying alternatives for obtaining money in the market. The situation is too complex to hold security issues to original cost or investment.

Similarly, the purposes and needs of the buyer cause us to break away from cost as a uniform standard of capitalization. Some of the possible purposes of the buyer are to outbargain the seller on price or take advantage of a pressing circumstance, to invest in or control the enterprise because of its stability or possible increments in values and earnings, to use the plant in connection with a large industrial scheme, or to employ his own efforts. The purpose which impels the buyer in any particular case will determine the desirable source of income. The cost theory is arbitrary and excludes many alternatives which should be considered in a wisely planned program.

Consolidation and Merger. This transaction is a half breed between a promotion and a purchase and has the elements of each which carry it away from cost as a fixed standard of capitalization. Here a sound transaction expects economies in production, distribution, or

overheads, or benefits in management, market control, credit standing, and the like. The urge is generally for larger profits or the preservation of old ones. The statutes and rulings in many jurisdictions limit new security issues to the combined capitalization of the consolidated or merged companies plus new money put in the enterprise. But this is an oversimplification of the problem and an arbitrary limitation of industrial tools. Rewards or losses to promoters, to buyers and sellers, adjustments to money markets, the soundness of the old capital structure, the pledge value of the properties, the prospects of the new enterprise are some of the factors which warrant an increase, decrease, or mere revamping of the old capitalizations and a departure from cost figures.

Reorganizations. Reorganizations are brought on by any of a number of economic ailments among which are faulty management, declining markets, deficient working capital, undue fixed charges. They generally require a demoting or wiping out of old and creation of new obligations and set-ups. This is done without regard to past costs, but on the basis of what the earnings will bear and on the needs for future operation. Here again we have no arbitrary standard of cost, but the application of financial planning.

Operation and Expansion. Refunding and discharging of capital obligations are controlled by two factors; the money amount of the refunded or discharged obligation, and the present credit standing of the company. The first will determine the money needed, the second the amount of securities issuable. Cost of the company's assets has nothing to do with the transaction, except in so far as it may equal the amount due.

The need for new money to extend plant may be met in several ways: by

ploughing back earnings, by issuing securities for cash through banking sources, by giving stock rights in connection with stockholders' subscriptions, and by borrowing from banks or holding companies. The selection depends on business policy, financial economy, and market conditions. Neither the cost of old or of new assets will determine if and to what extent capital issues shall be used. The only significance of cost in this case is as a limit to the proceeds or moneys needed for the purpose.

*Cost as a Measure of Capitalization—
The Parties Affected*

The Public. Advocates of the cost theory allege that capitalization on a cost basis will result in advantages to the public which may be listed as follows: (1) Publicity of cost in the capitalization figure, if it reveals excessive rates of profit, "may lead to a radical revision of the present methods of valuation"; (2) Such publicity may be a guide to commissions in requiring service improvement or rate reductions; (3) The capitalization will reveal if dividends bear a proper relation to cost; (4) Capitalization will serve as a basis for purchase by government.

None of these alleged advantages are of actual benefit. The first makes the untenable assumption that rates of all utilities should rest on a non-profit, "cost-of-service" basis. What is sought in rate regulation, however, is not primarily an elimination of profits, but the establishment of economically reasonable rates. The present unsound valuation method of rate-making cannot be improved by injecting cost and profits into it. The change should be toward a sound economic system of rate planning which gives proper emphasis to the profit element by considering the need, the fairness, and ability to adjust the rate.

Like weakness lies in the other alleged

advantages. "Excessive rates of profit" is an unsound criterion for requiring service improvements or particular rate reductions. The relation between dividends and cost of assets is a meaningless thing in which management, and the public, has little or no interest. Value of the property, not its cost, is the basis for government purchase unless cost be fixed by agreement between the parties.

Investors. The cost basis is said to be a great advantage to investors and creditors because of its stability and its comparability. Earnings, increments, and returns on investments may be computed easily from cost figures. But the investor can get all the information of this sort that is of any use to him from the asset side of a balance sheet, and other sources of corporate information.

The principal objection to cost as a basis for capitalization is that in successful enterprises the market price of shares becomes so great because of high earnings per share that it does not fit the demand of investors for lower priced securities. The opposite of this might be true in an unsuccessful enterprise.

The Operator-Manager. In so far as the cost of capitalization does not adjust securities of a company to the market demand of investors, it destroys the motive of operators and managers to finance on the cheapest and soundest basis. It is not necessary to translate cost figures into capitalization in order to give management a record of earnings on capital investment. In addition, it is so inflexible as often to prevent adequate adjustment of rights between the various parties, equity holders, investors, creditors, controllers, and claimants such as promoters and bankers. Not only the terms, but also the amounts, of securities must be used as variables.

The outstanding problems of capital security issues which confront the

operator-manager may be listed as follows: (1) meeting the market with a type of security which is acceptable and popular; (2) adjusting breadth and character of the market for shares through outlets and price levels; (3) adjusting shares and structures so as to maintain rights of the various parties among themselves and against income and assets of the corporation; (4) adjusting the capital structure to fit the business situation and managerial policy; (5) adjusting the capital structure so as to maintain the desired corporate control; (6) adjusting security issue income to other available sources of income.

All these factors are of such a discretionary and policy-making character that it is disastrous to rely for capitalization on the arbitrary basis of cost. Bonds and preferred stock are by their terms relatively inflexible in return and price; cost would be a barrier to variations in amounts. Common stock, under the cost system, is flexible in return but not entirely as to price, and very little, if at all, as to amount. Cost as a basis for capitalization results in cramping financial policy and distorting the financial set-up. It is a dead hand on corporation management.

Value Theories

Four current theories of capitalization assume that the underlying enterprise can be valued and capitalization adjusted to this value. These are times earnings, exchange value of the business, market value of securities, present and reproduction value theories.

Times-Earnings Theory

This theory would base financial arrangements on the earning capacity of an industry. Dewing, its leading advocate, says

¹⁰ Dewing, Arthur S., *The Financial Policy of Corporations*, (New York: Ronald Press, 1926), rev. ed., p. 225.

" . . . Given a local company operating under average conditions, a typical case, outside bankers and engineers will be willing to purchase the property for an amount equal approximately to ten times its normal earning capacity. This permits them to issue and sell enough first mortgage bonds and notes and stocks to pay for the property and the initial improvements.¹⁰

Financial plans are arranged to meet this end. It is assumed that capitalization is based on "value," which is interpreted to mean generally the "market value" that promoters would place on the company in buying and selling it. The "market value" in turn is said to be based as an average matter on an estimated certain times earnings. Even if "value" be taken to mean actual capital investment, earning power is still basically important because a correspondence exists between it and cost. It is said that . . . "within reasonable limits the net earnings are independent of the rates, so that there will exist some more or less standard ratio between the value of the property investment and both the gross earnings and the net earnings, whatever the rate may be."¹¹

It is true that this theory tends toward the dynamic aspect of industrial financing. It approximates the standard of the market for credit and funds, and regards market aspects of financing. But its many limitations render it incomplete and ineffective as a method of guiding the financial policy of a company.

First, an average or relatively constant ratio between earnings and either purchase price or investment cost of companies does not exist in fact. The purchase price of any particular company can be determined only by an actual transaction in which all bargaining processes are brought into play. But even if an average can be struck at any

¹¹ Dewing, *op. cit.*, pp. 319-321.

given time, it will not remain at a constant level. The money market, the business cycle, investment fads, holding company developments, the supply of available companies are a few of the numerous variable factors which cause purchase prices to fluctuate during comparatively short periods of years. These fluctuations in market prices are often, if not generally, not paralleled by like fluctuations in earnings.

It is true that investment costs are more or less standardized, but the ratio between cost and earnings is far from uniform. Earnings vary in similar plants so widely as to defy generalization and they have no constant relation to cost. They have no connection whatsoever with the broad swings of either commodity or plant costs, and they are affected by marketing conditions which do not coincide with cost variations. Besides, even if earnings did give a picture of either market value or cost it would not be important because neither market value nor cost is itself an adequate measure of capitalization.

In the second place, the theory is not useful because of excessive fluctuation of earnings. Capitalization cannot be managed and rearranged on such a short-term, fluctuating basis. Thirdly, the number of times or ratio of earnings to capitalization is essentially a fiction. The ratio is derived from stock exchange and similar security sales transactions. But stock quotations are a poor criterion of values, either present or future, as well as of financial policies. The times-earnings ratio is really an afterthought by which we label prices. Prices themselves move one way or the other for a myriad of reasons of which mass psychology is a most important factor. The earnings of a company are very important. But the price fluctuations of any security will show little relation to

the ratio of price times earnings. The ratio describes only the present position of the market; it vanishes with the ticker tape.

The ratio does give us some clue to the relationship of the market price levels of securities of companies in related industries. These comparisons are often influenced by whims and style, and at best they represent merely one of the many considerations in adjusting a financial policy. Besides, who can say that the earnings statements of any two companies are comparable? Sources of revenue, maintenance and depreciation policies, accounting methods all lend so much room for variation as to make an accurate estimate impossible.

The real merit of this theory is that it emphasizes the close relationship between outgo and income which must be regarded in any sound financial plan, and it stresses the disposition and investment aspects of securities. But it is essentially an estimate of the past. Financial management must ever keep its eyes on the future; the past is merely a memory to prompt wisdom.

Exchange Value of the Business

In their search for a guide to proper capitalization commissions have often turned to the sale price of the business on the market. The difficulty with this standard is that actual purchases and sales are rare, and any estimate of what a sale price would be is an hypothetical guess. The purchase and sale of a property is a bargaining process influenced by many considerations. It may be below the level of reasonable capitalization because of an unusually favorable bargain or because of unusual benefits accruing to a system by the new property. It may be above the level of reasonable capitalization because of intimate relation between the parties, collusion, misjudgment, temporary market conditions,

nuisance value, and many other reasons. The buyer's estimate of what he is willing to pay for a property may or may not have relation to the method in which he should get money to pay for it. Perhaps it should issue capital securities or perhaps use corporate earnings and funds. Three questions should be answered in every case: Should the property be bought? How much should be paid? How should payment be made?

The market price doctrine is really an adjunct to the cost theory. It deals, however, not with the cost of physical assets but rather the cost of an entire business. To that extent it is more comprehensive. But it is a figure which can be found only rarely, and when once found tells little of a reasonable capitalization method, and for the future it quickly takes on the uneconomic aspect of past cost data. It gives but little help in working out a sound financial plan.

Market Value of Securities

This theory is closely related in principle to the sale price theory. Instead of seeking a market appraisal of value in a purchase and sale of the business, a value of the plant is fixed by multiplying the stock market price of each type of security by the number of shares. The result is, of course, some figure which may or may not approach the actual or estimated selling price of the business.

The advantage of this method is that it can be arrived at currently and need not await the rare contingency of an actual sale of the business. But this is a disadvantage as well, because the standard is a fluctuating one which it is difficult if not impossible to parallel by fluctuations in the capital set-up.

Market quotations of securities are in

part a ready-made appraisal or "capitalization" of earnings. But "capitalization of earnings" as used on the security market has only a remote connection with the financial processes of a corporation. It is true that prices and business tend to move together in a rough sort of way, but security prices and corporate financing really move on different levels and meet only when a corporation must actually go into the market to buy or sell shares. Security prices merely tell an executive of the possibilities in future marketing of his securities, the estimate by security buyers of the present and future of his company, the market conditions of his securities, and the general list. Only to this extent does it have any relation to corporate financing.

Present and Reproduction Value

Some use has been made of the fluctuating standards of present or reproduction value of property as a measure of capitalization. For example, in Maryland the Commission is by statute authorized to allow issues up to the present value of the property.¹² In New York a similar standard is set for capital issues in reorganization cases.¹³ These standards conform substantially to those for the accredited fluctuating rate-base.

Current valuation of assets is obviously an impracticable tool. Capitalization could not be adjusted currently to value; it might be expanded to conform to increased value, but it could not be contracted. The rights of equity holders and debtors are rigid; they can be reduced only by consent of the parties or through tortuous legal processes. A sort of reorganization proceeding would have to accompany every security issue if the price level has dropped.

¹² Section 381 of the Public Service Commission Law of Maryland, amended by Laws of Maryland, 1910, c. 180, §27, as amended by Laws 1918, c. 408, and Laws 1920, c. 474.

¹³ See, for example, section 55a of the New York Public Service Laws, N. Y. Laws 1912, c. 289, as amended by Laws 1928, c. 732 and Laws 1921, c. 134.

The standards are also economically unsound. The reproduction value of assets, of course, would fluctuate with their commodity price changes. But commodity prices have no relation to the vital financial considerations of earning power, need for new investment, and social policy. There is no assurance that commodity prices and earning power run together. The history of the steam railroads during the last years amply proves this. Commodity prices likewise have no relation to the need for expansion of a particular industry. The market of the street railway, for example, fell off so as to require a retraction of facilities and financing and at the same time commodity prices were on the upgrade. Similarly, social policy and commodity prices might be running in opposite directions, one calling for expansion and the other for contraction. Ordinarily, depreciation and obsolescence will be deducted from production cost. This adds another variable which moves without regard to financial facts. The amount has no relation to the actual depreciation reserve accumulations.

The present-value base presents similar difficulties. Here original costs, average costs, and the like must be considered. These various factors individually have no relation to financial wisdom. An improvement might be attempted by adding earning power to property values as a consideration. This was done in the New York reorganization provision. But the picture is too clouded by the very attempt to merge asset values and reasonable financing.

Current valuation of assets as a measure of financing can find support only on the competitive theory. The financial or investment worth of an enterprise is said to equal the cost of reproducing the enterprise. Logically, therefore, we should look to the cost of reproducing

not a like plant, but one which produces like services, that is, a substitute plant. Exposure of the theory to light kills it. The competition is a fiction, and the reproduction of the plant a myth. A true basis for reasonable capitalization must be industrial facts, not fancy.

The Financial Plan

The issuance of capital securities is essentially a problem of corporate operations. True, it does come to the fore in the great corporate cataclysm of sales, consolidations, and reorganizations, and in its marketing phases it appears to live in a world of its own. But its roots are always imbedded in the business and it must eventually adjust to the year-in and year-out operations. Especially is this true of most public utilities and carriers because of their recurrent needs for new funds and the readjustment of old investment. The financial problem never can be governed by a static view of asset costs and asset values, nor can it be treated as a thing apart from the income and outgo phases of operation.

The Economic and Financial History

Economics of the Industry. The starting point of a financial plan must therefore be an economic analysis of the industry and the position of the company in the industry. The general analysis must take into account the long-run trends of growth or decline in demand, the effect of foreseeable changes in operating and management methods, competitive and coordinative developments, governmental policies.

The economics of the particular company involves a more specialized study of the above factors together with an analysis of corporate relations and interrelations from a marketing and managerial point of view. The economic analysis will have more or less importance depending on the length and amount of

the financing; small, short-term issues will cling closer to current operating data.

The Market of the Company. This is really one phase of the company's earnings analysis, but it is of such vital importance to the future that it takes independent significance. The size, character, growth or decline, stability, competitive factors, expansiveness of demand all should be appraised. These come close to the heart of the financial problem, and if wisely studied and articulated will assist in arriving at a sound financial judgment. They are important to financial planning of utilities and carriers whether the market be legally protected or not.

Corporate and Financial History of the Company. A picture of the past corporate organization and changes together with a record of financial transactions bears on future financial policy. It will give some clue to the reasons for existing capital structures, existing assets, dividend and depreciation policies, intercorporate relations, and the like. The past leaves us with a heritage of financial obligations and policies which cannot be lightly set aside.

Earnings, Expenses, and Profits

Income. Data of operating and non-operating income up to the present tell a story of earning capacity, the crucial financial test. The former should be broken down into its components of volumes and rates, and a projection of each of these made into future years. The volumes estimate will be related to plans for plant expansion and market demands. Rates may be taken at present levels and foreseeable changes taken into account. Both of these estimates should be guided by the long-term "operating plan" and "rate plan" if the company has mapped one out. In their absence, considerable detailed forecast-

ing must be done, possibly on a variety of estimated volumes and rates. The result will be an approximation of gross revenue over a period of future years.

Expenses. Past expense data must now be collected and future expenses estimated. Estimated volumes and standards of service will be the basis of the cost projection. Forseeable technological developments and changes in character of equipment should be considered. Depreciation policies should be separately analyzed.

Dividends, Interest, and Reinvested Earnings. A study should now be made of dividend policies and past dividend disbursements, and likewise of interest payments and obligations. The disposition of past surplus net earnings is of vital interest, especially if reinvested in plant and used as the basis for a stock-dividend policy.

These groups of studies reveal the past operation and earnings and the manner in which earnings have been used or distributed. They also give an estimate of future net revenues and the existing charges against this item which will carry over into the future. The balance is what is left for equitable claimants and future financing, a matter for future dividend policy plans.

Capital Needs

The next step in the plan is the estimate of the financial needs of the company for future capital purposes. Existing plant and present volumes are known; plant construction and future volumes may be estimated in keeping with the general plan of expansion. Except for radical changes in technology, the engineering data for future plant construction are predictable and may be laid out in a year-to-year plan. The financial plan should be broken down into the various sources of capital funds, whether from new capital issues offered

to the general public, reinvested earnings, or new money obtained from stockholders, coupled with stock rights, or bank and intercorporate borrowing. Adjustment of these various sources will be done on the basis of a long-term view of the company's future. The actual issuance of projected securities will be influenced to a greater or less extent by changes in market conditions, but the ultimate financial goal is laid out in the long-term plan.

Capital Structure

A matter of greatest importance in the plan is the character of the capital structure which is desired. The balancing of ownership and credit securities, and fixed and variable obligations must be made with a view toward the economic stability and earning capacity of the company over a long period of years. The relation between various corporate set-ups and predicted earnings must be worked out on a reasoned basis, and such considerations as control of the enterprise, division of earnings, and security of investments taken into account. These business judgments can be adequately analyzed only by an advance view of the business operation.

Marketing Methods

Methods of marketing through banking connections, holding company relations, or company distribution should be foreseen and policies such as customer ownership laid out. Prices, discounts, premiums, and the like may be estimated for the long period, and fairly accurately set down for the near future.

Period of Plan

The financial plan deals with transactions affecting the company over a long

period of years and must therefore tune itself to a long-term policy. As the plan is projected into the future the visibility of details becomes lower, and there is a limit to vision. A fair period for the long-term financial plan of a carrier or utility is probably somewhere between 10 to 15 years, varying with the type and position of the company. In addition there must be a short-term plan which deals more definitely with the immediate future period. This short-term plan should be laid out on the basis of from one to three years. It should fall generally within the scope of the long-term plan but will vary from it as business conditions and marketing problems require changes. The short-term plan should include the details of the particular issue which are sought to be approved in the current period. Both long- and short-term plans are, of course, subject to revision in a case of change in policy or condition, and both of them must be kept under constant surveillance by management and regulatory bodies.

The Financial Plan as a Managerial and Regulatory Tool

Financial planning turns both management and regulation to vital business and social facts. The plan is initiated by the management of the company using sound business judgment and making its reasons explicit. Regulation in its turn checks up on this industrial judgment to determine if policies are wise and in keeping with public policy and needs. Industrial judgment and regulatory review will strike a balance without imposing on each other's functions. Valuable methods and precedents will grow up to assist in molding financial facts into business plans.

Regulation of Public Utility Appliance Merchandising

By RICHARD A. HARVILL

I. Competition in the Retail Appliance Market

PUBLIC utilities commissions, legislative bodies, and the courts are faced by the perplexing problem of developing a social policy toward competition in the market for domestic appliances which consume the services of public service corporations. Central stations, independent appliance specialty dealers, electrical contractors, plumbers, hardware stores, department stores, furniture stores, and miscellaneous other retail outlets are competing for appliance sales.¹ Although this competition is not a new or recent development, it has been intensified and aggravated during the protracted business depression.

The main income of the central station is derived from the sale of electrical energy and gas, and appliance sales are regarded merely as means to an end. In their eagerness to increase their service load public service corporations have adopted aggressive merchandising methods.² Central station merchandising departments have incurred heavy ex-

penditures which have not always been recovered in revenues derived from appliance sales.

Utility executives attempt to justify this practice with the argument that they have an obligation to the public to engage in promotional work to obtain new business and thereby decrease the amount of unutilized plant capacity, which benefits are passed on to the public in the form of lower rates for service.³ Competing sellers counter with the argument that public service companies do not need to sell appliances, because other distributors can supply the market, while the utility companies reap the benefits of increased sales of gas and electricity. These competitors deny that the utilities voluntarily pass on to the public the benefit of increased sales of gas and electricity in the form of reduced rates.⁴ In rebuttal, the utilities contend that past experience has demonstrated the futility of relying upon non-utility outlets to supply the market with an increasingly large volume of high-grade appliances.⁵

¹ In addition to these groups, a few manufacturers and wholesalers oppose public utility appliance merchandising.

² For examples of active merchandising methods see *Sales Policies and Procedure of Eight Representative Companies*, Merchandising Bureau, Commercial Section of the N. E. L. A., Great Lakes Division, June 30, 1930. In the publications of the gas and electric industries can be found innumerable articles describing the merchandising policies and methods of utility companies.

³ Edwards, LeRoy M., "Meeting the Attack on the Right to Merchandise," *Western Gas*, November, 1931, p. 15; Gilchrist, J. F., "The Merchandising Situation," reprinted address delivered at the eleventh annual convention of the Great Lakes Division of the N. E. L. A.,

French Springs, Ind., October 1, 2, 3, 1931; Owen, J. F., "Views on the Electric Utility Companies' Relation to Merchandising and Promotion of Electric Appliances," printed by the N. E. L. A., February 4, 1931.

⁴ Pamphlets published by Merchant and Evans Company (Philadelphia, Pa.), "A Protest Against Public Utility Monopoly Competition in Electric and Gas Appliances and Merchandise Based on Complaint Before Federal Trade Commission," 1929; "An Open Letter to United States Senators and Congressmen," 1930. See also "25 Reasons Why Gas and Electric Companies Should not Sell Appliances," *So People May Know* (monthly bulletin of the American Bureau of Commerce, Kansas City, Mo.), September, 1930.

⁵ Information obtained in correspondence and conversation with prominent utility executives.

In further defending their position, central station companies which have well established service departments point to the records of these departments in rendering better service to customers when appliances break down than can be given by less elaborate service departments maintained by dealers. Also, it is commonplace knowledge that public utility companies have taken the lead in sponsoring the use of high quality appliances. They claim the results of these efforts have been reflected in the greater economy and greater safety of the appliances which their customers use.

Although opposition to utility appliance merchandising is being organized on a national scale, the conflict does not prevail between central stations and dealers in all communities. In a few localities central stations have withdrawn from the merchandising business⁶ and are actively cooperating with other sellers of appliances in order to increase electric and gas loads and at the same time maintain cordial dealer and public relations. In many other places throughout the country public service companies continue to merchandise, but only under formal or informal agreements with other retail groups providing that utility merchandising departments be operated so as to place independent dealers on the same business level with the utilities.⁷ In many instances the utilities extend this cooperation to the point of financing the deferred payment appliance sales of the dealers.

⁶ One large city in the United States where an electric utility has been out of the appliance merchandising business for a long period is Cleveland, Ohio. The Electric Illuminating Company of Cleveland withdrew from merchandising 25 years ago and has been highly pleased with the results achieved by independent dealers through its encouragement. The Southern California Edison Company beginning on December 31, 1931, withdrew from the merchandising of ranges in Long Beach, California for 15 years in order to give local dealers opportunity to demonstrate by trial

Despite the fact that many dealers want legal measures taken to remove central station companies from the merchandising field, others claim they seek nothing more than an even break—an opportunity to demonstrate their ability to sell appliances when central stations conduct their merchandising departments on the same basis as an independent business of like nature.⁸ These dealers recognize that the pioneering and promotional work involved in getting public acceptance of new appliances can be done more effectively by the utilities. But they complain against the aggressive selling tactics in which the utilities indulge, in order to sell a greater volume of appliances which have passed the pioneering stage and are "accepted" by the public.

II. *Legal Power of the Utilities to Merchandise*

Although altogether too brief, the above statement of the contentions and demands of the competing groups in the appliance market arouses interest in the present status of public control in this field. A review of state legislation, court decisions, and commission rulings reveals that the legal power of utility companies to merchandise appliances has been revoked by the legislature in two states, established in court and commission cases in some other states,

whether it was necessary for the public service company to merchandise actively in order to continue its existing rate of growth. According to the claims of the utilities the results obtained by the dealers were poor. Dealers argue that their achievements during the test period warrant continuation of the plan.

⁷ "Current Information on Power Company-Dealer Cooperative Merchandising," Society for Electrical Development in Cooperation with Commercial Department, N. E. L. A., 1930.

⁸ The hearings before the Sub-committee of the House Committee on Public Utilities of the Illinois State Legislature, in re House Bill 546, May 13, 20, 23, 1931, contain many statements which evidence this attitude.

modified by commission decisions in several states, and apparently never questioned by any of these public bodies in other states.

Legislative Action to Prohibit Utility Appliance Merchandising

During the past three years bills to prohibit public utility companies from merchandising appliances were presented in the legislatures of California, Indiana, Illinois, Kansas, Minnesota, Missouri, Nebraska, Nevada, New York, Oklahoma, Pennsylvania, Tennessee, and Texas.⁹ In only two of these states, Kansas and Oklahoma, were bills enacted into law. Section I of the Kansas law¹⁰ prohibiting gas, electric, water, and heating companies from engaging in the sale of products, except those used in distributing utility services, reads as follows:

"From and after the first day of August, 1931, it shall be unlawful for any individual, firm or corporation engaged in the manufacturing, transporting, distributing or selling of heat, gas, water, electricity or electrical current to engage in the manufacture, wholesale or retail, by sale or lease, of any chattel, article, commodity or manufactured product, except those articles which have been owned by such utility company in manufacturing, distributing, or selling its utility service, or those articles which are the direct product of the business of manufacturing or distributing said utility service."

Ten utility corporations of the Cities Service group filed action in the Shawnee County (Kansas) District Court to have the law declared unconstitutional, and to secure an injunction against its enforcement, on the grounds that the act

deprived public service corporations of rights and privileges granted by charter, and took property rights without due process of law, and hence constituted a violation of the Kansas Constitution and the Fourteenth Amendment of the United States Constitution.¹¹

In rendering its decision the Court admitted the truth in the argument of counsel for the utility corporation that independent merchants alone could never have brought about the increase in the use of gas which occurred after 1925, because independent merchants could not afford to use the promotional and selling methods employed by the utility companies. Nevertheless, the constitutionality of the act was upheld. The Court asserted that the powers of a public service corporation are granted by the state and any power which the state could withhold when the charter was given, might be taken away later, if the public welfare seemed to warrant. Fear of utility monopoly in the appliance market, the cause which apparently prompted the legislative enactment, seemed substantiated in the mind of the Court by the revelation that the percentage of appliances sold by public utilities in Kansas had been increasing annually since 1925, until, in 1930, between 80% and 90% of the total volume was sold by the utilities.¹² The possible danger of this monopolistic tendency constituted sufficient provocation to induce legislation barring utilities from the merchandising field.¹³

The Oklahoma anti-utility merchandising law¹⁴ is very similar in content

⁹ *Electrical World*, April 4, 1931, p. 617; April 11, 1931, p. 663; April 25, 1931, p. 572; *Gas Age-Record*, August 30, 1930, p. 304.

¹⁰ Laws 1931, c. 238.

¹¹ Taken from a copy of the court's decision in *Capital Gas and Electric Co. et al v. Roland Boynton, Atty. Gen.*, not yet officially reported. Only two of the 10 companies had express charter power to engage in the merchandising business.

¹² The court departed from its strictly judicial function far enough to point out the possibility of questioning the wisdom of the law.

¹³ Evidence presented in this case and before the Legislature when the bill was being considered indicated that the utilities in Kansas had been rather flagrant in their disregard and abuse of sound merchandising principles.

¹⁴ Laws 1931, not yet officially reported.

to the Kansas legislation. Public service corporations in Oklahoma have withdrawn from the appliance merchandising business without a legal fight. Executives of these corporations feel that the legislation is unconstitutional. However, since most franchises now in effect in Oklahoma must soon be renewed, the utility companies are more interested in the right to operate than in the right to sell appliances, and, as a matter of public relations, they avoid incurring opposition of the retail merchants in the matter of franchise renewals.¹⁵ Also, the utility groups feel that a test will demonstrate the inability of the independent dealers to sell appliances with the consequence that public interest will demand restoration of the merchandising power.

Public service corporations continue to merchandise appliances in states which have not prohibited this type of activity. The legality of the merchandising activity is being probed in New York State by the Public Service Commission,¹⁶ and in Texas at the instigation of the attorney general who brought a quo warranto suit against the San Antonio Public Service Company, charging the utility with exceeding its express charter powers by engaging in merchandising operations.¹⁷ A thorough investigation into electric rates and service was ordered by the 1931 session of the South Carolina Legislature when provision was made for the South Carolina Power Rate Investigating Committee. The merchandising activities of all electric utilities are now being examined as a part of this general investigation.¹⁸

¹⁵ Taken from correspondence with persons familiar with the situation in Oklahoma. The Oklahoma indeterminate permit law was declared unconstitutional several years ago—hence the present franchise situation.

¹⁶ Letter to writer from New York Public Service Commission.

Court Sanction of Merchandising Power

The power of a public service corporation to merchandise, even though neither the charter of the corporation nor the state public service law contained specific provisions giving that power, has been confirmed in two Pennsylvania Supreme Court decisions. The leading case, *Malone v. Lancaster*, occurred in 1897.¹⁹ Power of a gas company to issue securities for the purpose of purchasing the exclusive right to use and sell appliances within a limited territory was questioned by a dissenting stockholder, who contended that the charter of the corporation gave only the power to manufacture and distribute gas, heat, and light, and did not either directly or indirectly confer any power to buy or sell appliances. In affirming the power of the utility company to buy and sell appliances the Court said:

"The charter of the company says the corporation was formed for the purpose of manufacturing and supplying illuminating gas to the public in Lancaster. This is a charter to furnish heat as well as light. The furnishing of light contemplates more than the supply of illuminating gas. The purpose of the grant contemplates a contrivance for the distribution of heat. In order to distribute heating gas there are required not only pipes for the conveying of gas, but, also, in our opinion, all other necessary appliances and fixtures for its reception and use by the patrons of the company. Gas stoves and gas heaters, therefore, are indispensable to the use of heating gas, and therefore are not foreign to or inconsistent with the objects for which the company was incorporated. We might as well contend that the appliance of a gas burner, which is absolutely necessary for the creating of light from illuminating gas, is foreign to or inconsistent

¹⁷ 8 *Public Utilities Fortnightly* 248 (August 20, 1931).

¹⁸ Letter to writer from a member of the Power Rate Investigating Committee.

¹⁹ 182 Pa. 300.

with the object for which the company was incorporated."²⁰

The decision of this early case was accepted by the Pennsylvania Supreme Court in 1930, when it gave a decision in what has become known as the Philadelphia Electric case.²¹ Upon petition of Merchants and Evans Company, manufacturers of refrigerators in Philadelphia, the attorney general of Pennsylvania brought quo warranto proceedings to determine the charter rights of the Philadelphia Electric Company to sell refrigerators. Upon appeal by the attorney general, the Supreme Court affirmed the lower court's decision upholding the utility's right to sell appliances. The Court stated that, although certain activities may not be within the literal terms of the corporate grant of power, they will not be held illegal if they are of such a nature as to be fairly considered incidental or auxiliary to the corporate business. Hence, a corporation chartered for the purpose of supplying heat, light, and power as electricity, may sell as an incident to its business electrical appliances such as refrigerators, by which power is delivered to and utilized by its customers. In reaching a conclusion the Court gave no weight to the plea of attorneys for the Commonwealth that, whereas in 1897 there were too few dealers to supply adequately the market for appliances, in 1930 great numbers and

variety of aggressive appliance dealers were selling complete lines of quality appliances, and were equipped to give adequate and efficient service during and after installation.²²

III. Extent of Public Control over Utility Appliance Merchandising Activities

A study of the Commission cases—more than 60 in all—which involve merchandising problems indicates that for the most part the commissions consider appliance merchandising activities per se as non-utility operations outside their jurisdiction and what control they have exercised has been largely through their control over public utility accounting. But even here no uniformity of policy or practice is discernible. Whenever called upon to commit themselves on the matter, commissioners have pointed to competition as the regulating force in the appliance retail market to determine policies, prices, and service rendered in selling, installing, and servicing appliances.

The Question of Jurisdiction

As early as 1918, the Illinois Commission refused to take jurisdiction in a case involving the reasonableness and fairness of rates for repairs made upon the customer's own equipment previously installed upon his premises, and the rate for delivering lamps on renewals and calling for or delivering appliances in need of repair. The Commission asserted that:

"In so far as the public utility departs from such methods of business . . . especially where, as in this case, it branches off into a

"not an incidental power of a corporation organized for the purpose of manufacturing, storing, selling, and distributing electricity for light, heat and power." In other words, the powers expressed in the terms of the corporation's charter were broader than the terms of the statute under which the corporation was organized. This case involved the question of manufacturing as well as selling appliances. The records disclose no later cases involving both powers.

²⁰ *Ibid.*, p. 317. In the same vein was the statement of Mr. Justice Mitchell (*Ibid.*, at 320-1): "It would be no use to manufacture gas if there were no customers to buy and hence the company may fairly supply not only the gas itself, but incidentally such appliances and conveniences as will induce new customers to use gas and old ones to use more. This is a legitimate mode of extending the company's business in direct furtherance of its charter object."

²¹ *Commonwealth of Pennsylvania ex rel. Thomas J. Baldridge v. Philadelphia Electric Company*, 300 Pa. 577 (1930).

²² In *Burke v. Meade*, 159 Ind. 253 (1902), the Supreme Court ruled that the manufacture and sale of all kinds of electrical appliance, apparatus, and supplies are

competitive undertaking in which private enterprises not under the Commission's control are engaged, it ceases to be engaged in a public utility business and hence is not subject to the control or regulation by the Commission."²³

This same line of reasoning was used by the Maryland²⁴ and New York²⁵ Commissions in two cases: the one involving refusal of a public service company to turn on electricity until wiring in the building had been inspected and approved by an insurance company, and the other involving the power of the Commission to regulate rentals and installation charges for gas ranges handled by a public service company.

Commissions uniformly disallow service to be turned off when customers fail to make payments for appliances purchased.²⁶

In none of the cases cited in this paper has a commission interfered directly with appliance pricing policies and the practice of billing merchandise sold on the bills for electricity and gas.

Accounting Control

Through their control over the accounting methods of public service corporations, state commissions may exercise considerable influence over appliance merchandising activity. In cases involving valuation and the reasonable-

ness of rates charged for services the commissions have opportunity to take a stand on the treatment of merchandise and property used in selling merchandise, and on expenses and revenues of the merchandise department. With reference to the treatment of merchandise inventory and property used in selling merchandise, two directly opposed methods are represented in utility regulatory practice. Some commissions have allowed inclusion of these items in the rate-base, while others have excluded them. As far as those are concerned which permit inclusion of merchandise inventory in the rate-base, it may be added that the reason for such practice is to be found largely in the special difficulty experienced in separating the merchandising from the operating property.

Merchandise Inventory Included in the Rate-Base. The New York Public Service Commission has said that ordinarily the item of merchandise to be resold should not become a part of the "materials and supplies" account to be included in the rate-base, but allowed its inclusion where the profit arising from the sale of merchandise was credited to the general income of the company.²⁷ Another decision of the New York Commission allowed land upon which was located a storehouse containing appliances

recouped in rates charged customers for utility services.

Apparently the Commission did not think the action of company in taking a loss of \$104,567.40 on the merchandising department and making good the loss in the charges for gas affected the "performance of its duties imposed by law."

²³ *Re Cape May Illuminating Co.* (N. J.), P. U. R. 1919 B 46; *Middleton v. Cumberland Co. Gas Co.* (N. J.), P. U. R. 1920 B 237; *Wyoming v. Luzerne County Gas Co.* (Pa.), P. U. R. 1922 A 48; *Miller v. Roswell Gas & Electric Co.* (N. M. Sup. Ct.), P. U. R. 1918 A 21.

²⁷ *Warsaw v. Warsaw Gas and Electric Co.* (N. Y. 2nd District), P. U. R. 1920 E 618. For similar decisions see: *Re Consumers Co.* (Idaho Public Utilities Commission), P. U. R. 1923 A 418; *Borough of Wyoming et al. v. Luzerne County Gas and Light Co.* (Penn. Public Service Commission), P. U. R. 1922 A 48, 55.

²³ *Public Utilities Commission v. Commonwealth Edison Co.*, P. U. R. 1918 F 109; the Illinois Commission refused to take jurisdiction under similar situations in *Blackhall v. Public Utilities Commission*, P. U. R. 1919 E 907, and in *Public Utilities Commission v. Henderson County Public Service Company*, P. U. R. 1920 C 381. The Missouri Commission reached a similar decision in *Re St. Louis County*, P. U. R. 1919 B 568, on the ground that the statutes did not require a schedule of rates for such work to be filed with the Commission.

²⁴ *Claggett v. Eastern Shore Gas and Electric Company*, P. U. R. 1920 C 501.

²⁵ *M. Just v. Consolidated Gas Company of New York*, P. U. R. 1918 C 390. The records in this case showed that according to the books of this company the income from the rentals and sales of appliances was \$104,567.40 less than the expenses incurred in rendering the merchandising services. The merchandising losses were

to be included in the rate-base, because this was the "simpler and most usual" method of treatment.²⁸ This reason was supplemented by the assertion that the sale of appliances is not an independent vocation but rather a fair and proper course for the utility to follow in order to stimulate the sale of gas by providing customers with standard and safe appliances of various kinds adapted to the consumption of gas.²⁹ "Accounts Receivable" representing outstanding claims arising out of the sale of appliances formed a part of the working capital figure which the Michigan Public Utilities Commission allowed in a recent opinion,³⁰ and the United States District Court of Massachusetts has permitted both value of appliances in stock and accounts receivable, representing uncollected bills for appliances sold, to be included in the working capital figure.³¹

Appliance Merchandise Excluded from the Rate-Base. The United States District Court of Georgia, in an appeal case from the Commission's decision, admitted the truth in the argument that gas appliances are sold primarily to develop the sale of gas, and further recognized the need for encouraging the use of efficient appliances as the gas company was doing. Yet these considerations, in the judgment of the Court, did not justify including merchandise items in the valuation of the property and requiring all users of gas to pay a return upon the amount invested in these appliances as property used and useful in the public service.³² In the case at issue it was argued that, since profits from

merchandise sales were included in the operating revenue of the company, the average amount invested in the merchandise account should be included in the rate-base. While conceding some reason and equity in this position, the Court showed that apparently no profits were earned in 1923; nor were any likely to be earned in 1924.³³ Hence, merchandise was excluded from the rate-base.

In 1924 the Montana Public Service Commission made the following declaration with respect to the treatment of merchandise and property employed in carrying on mercantile operations of a utility company:

"Again we think it proper to strike from the rate base those property elements included by the Company under the head of stores department building and fixtures. These elements are not dedicated to any use in the public service. They properly represent working capital employed in the private or mercantile part of the company's business. And while it may be convenient both to the company and to customers that the same organization handle and install stoves, furnaces, and other fixtures, these elements do not represent capital employed in the public service proper."³⁴

However, profits obtained from merchandise sales were included in operating revenue because of the inability of ascertaining from the record what amount of expenses incident to the operation of the merchandise sales department were charged to utility operations.

Other states in which the commissions have excluded merchandise from the rate-base are Washington,³⁵ Kansas,³⁶

²⁸ *Ibid.*, p. 589.

²⁹ *Customers v. Cohoes Power and Light Company*, (2nd District), P. U. R. 1921 D 421.

³⁰ *Ibid.*

³¹ *Re Michigan Federated Utilities* (Mt. Clemens Division), P. U. R. 1930 D 506.

³² *Worcester Electric Light Company v. Henry C. Atwill et al.*, P. U. R. 1929 B 1.

³³ *Georgia Railway and Power Company v. Railroad Commission*, P. U. R. 1925 A 546.

³⁴ *Billings v. Billings Gas Company*, P. U. R. 1924 C 217. This view was reiterated by the Commission in *City of Polson v. Public Utilities Consolidated Corporation*, P. U. R. 1929 E 557.

³⁵ *Public Service Commission ex rel. v. Seattle Lighting Company*, P. U. R. 1915 B 135; *Public Service Commission v. Grays Harbor R. and L. Company*, P. U. R. 1915 C 518.

³⁶ *Ft. Scott Gas and Electric Co. v. Ft. Scott*, P. U. R. 1915 B 481.

Missouri,³⁷ Utah,³⁸ and Ohio.³⁹ In the Grays Harbor case the Washington Commission refused to allow in the rate-base part of the investment in a subsidiary company which represented the stock of merchandise.⁴⁰ The Utah Commission clearly stated its intention to prevent power and light consumers from paying sums which should be paid by customers who purchase appliances:

"Our property account includes only property used and useful in the giving of that service [Public Service]. The person who pays to have his house wired or buys an electric light globe cannot be required to pay part of the rate charged the person who pays for electric light and power. Again it sometimes happens, as we have discovered in other cases, that annual losses are realized in the conduct of other departments or investments, and we see no justice in compelling a light or power consumer who buys only a service, to assume burdens which arise from operations such as we have outlined. The principle has been so universally established that only property used and useful in the rendering of a public service may be considered and only revenues and expenses pertaining to such service may be considered in making rates."⁴¹

In 1917 the District of Columbia Public Utilities Commission used the same argument against including merchandise inventory in the rate-base,⁴² and in 1931 it devised an accounting system which provides for a clear segregation of merchandising and operating accounts for gas companies.⁴³ In the earlier case the Commission defined its policy in the following language:

"The Commission believes that, while this is a perfectly legitimate enterprise for an elec-

trical organization, the money invested therein should not be made the basis for a perpetual charge against the company's customers, many of whom do not avail themselves of the privileges. Such side lines of business should be self supporting, or, if operated at a loss, should be considered as an operating expense."⁴⁴

Merchandising Revenues and Expenses. The policies followed by the different public service commissions in their treatment of merchandising revenues and expenses are by no means uniform. In only one state has this problem been settled by a statute. In 1929 the Wisconsin Legislature enacted a law⁴⁵ requiring public service companies to keep separate accounts to show all profits and losses resulting from the sale of appliances and other merchandise and no such profit or losses should be taken into consideration by the Commission in arriving at rates to be allowed for services rendered by the utility company. Pursuant to that act the Railroad Commission⁴⁶ has ordered a separate accounting to be made not only for the actual sale of appliances, but also for jobbing and contracting work done by public service companies.⁴⁷

The Illinois Commission refused to allow in operating expenses a sum paid to merchandise salesmen of a construction company, which owned and carried appliances for the operating company although the companies had a common ownership. In giving its decision the Commission said:

"This merchandising business does not benefit the utility company to any greater extent

³⁷ *Commerce Club v. Missouri Public Utilities Co.*, P. U. R. 1915 C 1017.

³⁸ *Re Utah Gas and Coke Co.*, P. U. R. 1919 D 645, 657.

³⁹ *Re Western Ohio Public Service Company*, P. U. R. 1931 D 1.

⁴⁰ P. U. R. 1915 C 518.

⁴¹ *Re Dixie Power Company*, P. U. R. 1922 B 832. This view had been pronounced by the same Commission in *Re Telluride Power Co.*, P. U. R. 1922 B 168.

⁴² *Re Potomac Electric Power Company*, P. U. R. 1917 D 563.

⁴³ *Re Accounting for Gas Companies*, P. U. R. 1931 B 437.

⁴⁴ *Re Potomac Electric Power Company*, P. U. R. 1917 D 669.

⁴⁵ Wisconsin Statutes, c. 196.59.

⁴⁶ Now the Public Service Commission.

⁴⁷ *Re Accounting for Merchandise Sales*, P. U. R. 1930 E 204.

than the merchandise sales of any other retail merchandising company operating in the territory of the utilities company and there is no more reason why the utilities company should assist in the payment of salaries paid to the salesmen of these other concerns."⁴⁸

As early as 1920, the North Dakota Board of Railroad Commissioners ordered a revision of the accounts of a public service company to eliminate merchandise receipts and expenses.⁴⁹ The Montana Public Service Commission, after stating its general policy to disallow merchandise expenses and revenues from operating income and revenue, treated profit on merchandise as operating revenue because there was no way of ascertaining from the record what amount of expense incident to the operations of the merchandise sales department was charged to operating expenses.⁵⁰

The New Hampshire Public Service Commission found the Plymouth Electric Light Company charging many merchandising and jobbing expenses to operating costs with the effect of overloading the operating expense account and making it appear that the company was suffering a loss on its power and light sales and making a handsome profit on its merchandising and jobbing activities. A reapportionment of expenses

between the two forms of activity was ordered, and merchandising income and revenue were not to be considered in making rates.⁵¹ Where the record indicated neither profit nor loss incurred from merchandising operations, the Georgia Federal District Court did not oppose the inclusion of merchandise revenues and expenses in operating income and expense accounts; however, it did exclude the value of merchandise from the rate-base.⁵²

The most recent commission actions on accounting for merchandise have occurred in Nevada,⁵³ Ohio,⁵⁴ New Hampshire,⁵⁵ and the District of Columbia.⁵⁶ In all these cases the commissions ruled that income and expenses of merchandising must be shown separately from operating revenue and expenses and must be excluded from consideration in fixing rates for service. The District of Columbia Public Utilities Commission, after an investigation on its own initiative into the accounting practices of gas companies, outlined future accounting practices for gas utilities.⁵⁷ The essentials of the Commission's order are as follows:

1. All revenues and expenses connected with the buying and selling of gas appliances must be kept separate and apart from, and not included in,

⁴⁸ *Re Spring Valley Utilities Company*, P. U. R. 1920 F 139.

⁴⁹ *Re Eastern Montana Power and Light Company*, P. U. R. 1920 F 928; the same action was taken in *Re Bismark Gas Company* (N. D.), P. U. R. 1920 F 1014.

⁵⁰ *City of Polson v. Public Utilities Consolidated Company*, P. U. R. 1929 E 557.

⁵¹ *Re Plymouth Electric Light Company*, P. U. R. 1922 B 467; also see *Re Dixie Power Company* (N. H.), P. U. R. 1922 B 832 and *Re Holland Gas Works* (Mich.), P. U. R. 1925 D 571. In 1931 the New Hampshire Commission ruled that operating utilities previously engaged in a profitable appliance business, who turned it over to a foreign affiliated appliance corporation will not be permitted to burden their own operating expenses by carrying on the business for the ultimate benefit and profit of a common owner. (*Re New Hamp-*

shire Gas and Electrical Company et al., among cases reported in 8 *Public Utilities Fortnightly*, September 3, 1931, p. 225.)

⁵² *Georgia R. and Power Company v. Railroad Commission*, P. U. R. 1925 A 546. In an Idaho Commission case where the operating company did not treat merchandising revenues as operating income, merchandising expenses were not included in operating costs. (*Re Kootenai Power Company*, P. U. R. 1923 C 159.)

⁵³ *City of Elko v. Elko Lamoille Power Company*, P. U. R. 1931 C 14.

⁵⁴ *Re Western Ohio Public Service Company*, P. U. R. 1931 D 1.

⁵⁵ *Re New Hampshire Gas & Electric Company*, see n. 51.

⁵⁶ *Re Accounting for Gas Companies*, P. U. R. 1931 B 436.

⁵⁷ *Ibid.*

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any operating revenue or expense account showing the revenues from, and expenses connected with the sale of gas service. Nor shall merchandise expenses and revenues be taken into consideration in determining rates.

2. A special sub-account "merchandising, jobbing, and contracting work," under the caption "income from non-operating property," must be used to show merchandise expenses and revenues.

3. This new account will be credited with revenues from the sale of merchandise, jobbing, and contract work, including any profit or commission accruing to the accounting company on jobbing work performed by it as agent under agency contracts. This account will be charged with the cost, less discounts taken, of merchandise and materials used in jobbing or contract work, including transportation costs and any discounts and allowances made in connection with settlements of bills for merchandise and jobbing work; and losses attributable to uncollectible merchandise and jobbing accounts, if such losses are not reflected in the prices charged for merchandise and jobbing work; and the compensation of all employees engaged in the purchase, sale, delivery, installation, displaying, demonstrating, and marketing of merchandise and jobbing or contract work, to the extent such employees are so engaged; all advertising of merchandise, rentals and storage costs, to the extent they are attributable to merchandising and jobbing work; and all other expenses inci-

dent to or connected with the merchandising and jobbing department not provided for in the foregoing.

The records contain a number of commission rulings which allow appliance merchandising revenues and expenses to be included in operating accounts. The accounting classification of the New York Public Service Commission now allows gas and electric corporations the option of conducting merchandise departments at cost, or below cost for the purpose of stimulating use of gas and electricity and charging the loss to operating accounts as "New Business Expense," or conducting the merchandising operations primarily for profit, in which case they are accounted for as a separate department.⁵⁸ In at least two reported instances the New York Public Service Commission has treated merchandising expenses and revenues as a part of operating cost and income.⁵⁹

The Pennsylvania Commission in one case ruled that, even though a part of the expenses and revenues of a public service company's jobbing department were not incurred for or derived from strictly utility operations, yet, because of the difficulty of fair apportionment, the entire amount might be allowed in operating accounts.⁶⁰ Where accounts receivable, arising from the sales of appliances, were included as working capital in the rate-base, the Michigan⁶¹ and Idaho⁶² Commissions allowed profit from such sales to be included in operating revenues. A classification of accounts issued by the Oregon Commission in

Company, P. U. R. 1922 D 231.

⁵⁸ "Report of the New York Commission on the Revision of the Public Service Commission Law (1930), p. 6. This Commission recommended a revision of the accounting classification to require exclusion of merchandising items from operating accounts.

⁵⁹ *A. Herman v. Newtown Gas Company*, P. U. R. 1916 D 825; *Re Elmira Water, Light, and Railway*

Casanave v. Overbrook Steam Heat Company, P. U. R. 1926 A 600. Similar treatment is found in *City of Polson v. Public Utilities Consolidated Corporation* (Mont.), P. U. R. 1929 E 557.

⁶¹ *Re Michigan Federated Utilities*, P. U. R. 1930 D 506.

⁶² *Re Consumers Co.*, P. U. R. 1923 A 418.

1924 treated "merchandising and jobbing net" as an operating revenue.⁶³

The Kansas Supreme Court overruled the State Public Service Commission's order requiring the expense of new business, incurred in putting into effect a plan for increasing gas consumption through the use of appliances, to be amortized over a period of years, and set aside the decision when evidence "fairly" indicated that the expense would be a normal charge each year for several years to come.⁶⁴ Likewise, the United States District Court of New York (Second District) approved the inclusion of appliance promotional expense within the operating expense account. Also, it approved profits as operating revenue.⁶⁵

Regulation of Lamp Policies

The practice of granting "free" lamp renewals for lamps of standard size, and including a charge per kilowatt hour to cover this service has been followed for a long time⁶⁶ by some companies and more recently adopted by others. Some 30 companies in the United States adhere to the free-lamp renewal policy,⁶⁷ but in some cases it is optional⁶⁸ with the customer. The legality of the Common-

wealth Edison Company's compulsory lamp renewal policy was challenged by a large commercial customer in 1930 on the ground that the rate of one-half cent per kilowatt hour was unreasonable and the lamps could be bought and furnished by the customer at a lower cost. The Illinois Commerce Commission denied the prayer for relief and supported its decision in part with the following reasoning:

"The said Commonwealth Edison Company does not furnish the said lamps as articles of merchandise sold to the customer; . . . the rate for electric lighting and power service involved in the proceedings . . . does not combine a charge for utility service with a charge for the furnishing of merchandise, but that the entire charge in the said rate is for lighting and power service, of which the furnishing of lamps may reasonably be considered an integral part; that the said rate is not unreasonable, unjust, discriminatory or unlawful, or in violation of any statute of the state of Illinois or rule or regulation of this Commission."⁶⁹

In ordering a separate accounting for the sale of appliances and for jobbing and contracting work done by public service companies, the Wisconsin Railroad Commission made an exception to care for the lamp renewal practice.

panies are members of the Insull group.

⁶⁸ That is, the customer may furnish his own lamps if he wishes. If he does, of course, he does not have to pay a charge for lamp service in the rate which he pays for electric service. For over 16 years the Commonwealth Edison Company of Chicago has followed a "compulsory" lamp renewal policy; i. e., the rate charged for lighting service has been made under the assumption that the company furnishes lamp renewals, even though the customers in many instances fail to take advantage of the company's policy and furnish their own lamps.

⁶⁹ *Consumers Sanitary Coffee and Butter Stores v. Commonwealth Edison Company*, P. U. R. 1930 D 331. The Commission further declared that evidence did not show that one-half cent per kilowatt hour was added to the energy charge but that the cost of lamp service was merely one of the factors upon which the rate was based, being determined and entering into the rate in the same manner as all other recognized and proper elements of cost enter into a rate.

⁶³ *Re Idaho Power Company*, P. U. R. 1924 D 176. For similar rulings by Commissions see: *In Re Vallejo Electric Light and Power Company*, 33 Cal. R. C. R. 360, 361; *Re Southern Counties Gas Company* (Cal.), P. U. R. 1921 E 374; *City of Rock Port v. Clifton* (Mo.), P. U. R. 1927 E 470.

⁶⁴ *Wichita Gas Company v. Public Service Commission*, 126 Kansas 220 (1928). This and other gas companies within the H. L. Doherty group, by aggressive merchandising methods, increased greatly the consumption of gas after the Doherty interest gained control of them about 1925. In 1930 utility companies were selling between 80% and 90% of the appliances sold in Kansas.

⁶⁵ *Kings County Lighting Company v. Prendergast*, P. U. R. 1925 C 705.

⁶⁶ Thirty-five years in the case of the Commonwealth Edison Company of Chicago.

⁶⁷ These facts were brought out in *Consumers Sanitary Coffee and Butter Stores v. Commonwealth Edison Company*, P. U. R. 1930 D 321. Seventeen of the com-

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"Because of the practice which has been followed in many cases of making provision for lamp renewal allowances in rate schedules, because of the importance of encouraging the use of standard grade lamps in order that the customer may receive service of high quality and because in many cases rate schedules have covered the cost of lamp renewal allowances, and the revenue from the sale of lamps cannot be determined separately from the sale of energy, the Commission is of the opinion that where lamp renewals are made for customers without specific charge or at a price less than the price charged to parties not entitled to lamp renewal allowances, the lamp renewals should not be treated as merchandise."⁷⁰

The New York Public Service Commission in 1917 pointed out the reasonableness of allowing the cost of lamps installed on the customers' premises to be charged either to capital account or operating expense. The Commission, however, required the latter treatment.

"The accounting provisions of the commission require that incandescent lamps be charged to expenses. This is property of very short life, and if allowance were made for it in the valuation the amount claimed by the company as its cost would have to be considerably reduced in recognition of depreciation . . . No injury is done to the company in following its own accounting practices and treating as operating expenses . . . the cost of lamps installed on the consumer's premises. Theoretically, these expenditures might perhaps be charged to capital, but the practical bookkeeping difficulty involved in keeping track of such a myriad of small items has doubtless led the company to the practices followed generally by similar companies in this district and sanctioned by the Commission, that of treating these expenditures as operating expenses."⁷¹

The Massachusetts Commission refused to order discontinuance of the Edison Electric Illuminating Company's policy

of furnishing lamps of 50 watts and over to consumers free of charge because of doubt as to its authority to make such an order and because the practice seemed desirable.⁷²

IV. Conclusions

Certain fairly definite conclusions may be drawn from this study of public control of utility appliance merchandising.

1. In the absence of statutory prohibition to the contrary appliance merchandising seems to be a function legally recognized as properly incidental to the main function of gas and electric companies. Moreover, it is not essential that this power be given specifically in either the state public utility law or in the charter of the utility corporation.

2. State commissions have always regarded the merchandising operations of utility companies as non-utility activities which the Commissions can regulate only as these activities are incidentally related to the main duty of furnishing gas and electricity. Hence, the Commissions have exercised no direct power over selling policies and practices of public service companies. When called upon to extend their jurisdiction in that direction the Commissions have pointed to competition as the regulating force in the retail appliance market.

3. Through their control over the accounting systems and rates of public service companies state commissions may exercise an important influence over merchandising policies and practices. The tendency is distinctly in the direction of requiring a segregation of merchandising and operating accounts for the purpose of apportionment of property and revenues and expenses, so that

⁷⁰ *Re Accounting for Merchandise Sales*, P. U. R. 1930 E 204.

⁷¹ *Albert Moritz et al. v. Edison Electric Illuminating Company of Brooklyn*, P. U. R. 1917 A 364. The Commission accepted this decision in *Samuel Evans*

Maires et al. v. Flatbush Gas Company (P. U. R. 1920 E 931) and declared that value of appliances could not also be included in capital account.

⁷² *Consumers v. Edison Electric Illuminating Company*, P. U. R. 1926 A 525.

appliances and property used in the merchandising business, and the expenses and revenues of the merchandise department, will not be considered in arriving at rates to be charged for utility service. Little progress has been made in constructing proper methods of apportioning promotional expenses common to both phases of the business.

4. Assuming the utilities continue to sell appliances, a part of the expenses of the "New Business" or commercial departments which are of a promotional character should be allocated to operating expenses and recovered in the rates charged for service to customers. However, to allow utility companies to devise their own methods of allocation is leaving temptation for the companies to overload their operating accounts with promotional charges incurred in trying to add additional service load to the lines. After a certain sum is spent in promotional activity the expenses in-

involved in adding additional appliances to the lines may be so great that added revenues from the customers' use of the appliances do not justify the promotional outlays of the company. Thus, users of current may be burdened with higher rates than more conservative management would justify. Then, of course, there is always the problem of the inequality of distribution of promotional expenses among domestic customers who do not own the same number and kinds of appliances.

5. The prevailing widespread dealer opposition to utility appliance merchandising is becoming more organized, a tendency which may portend new developments in statutory and commission control over these activities of public service corporations. As dealer-utility cooperative plans prove successful and become more widely accepted, further public control of utility merchandising activities may be forestalled.

Holding Corporation Control As a Provisional Form of Consolidation

By KENNETH FIELD

FEW uses of the holding corporation are more important than that of serving as an interim device in corporate consolidations; yet few other uses of the holding corporation have so thoroughly escaped public notice and discussion. Generally speaking, holding corporation control is the usual preliminary to outright fusion of corporate properties in the public utility industries. Such control offers positive advantages in working out the business and legal problems of the more complete types of consolidation; it also possesses very definite merits as a trial device pending determination of the advantages of governmentally sponsored consolidations, such as those of the railroad systems of the country. Hence, the purpose of this article is to discuss the place of holding corporation control as an intermediate step in the consolidation process. The point of view is that of the promoter and the desirability of the device is tested by its effect on the promoter's interests.¹

The Meaning and Processes of Consolidation

The term consolidation is here used to designate the process of (or the institution resulting from) bringing a number of corporations or their properties under

single control and direction. It is true that this is definition from a purely economic point of view, but happily it also has strong support in the provisions of some state constitutions and statutes and in current financial literature. So defined, consolidations fall into two classes: (1) unions which result in a stable alliance of legally separate corporate entities each retaining title to its properties; and (2) unions which result in the properties of the consolidating corporations being acquired by a single corporation. The latter class of consolidations is the subject of immediate discussion.

Consolidations which result in the properties of the consolidating corporations being acquired by a single corporation, here called consolidations by direct ownership of properties, may be consummated in several ways. (1) Two or more companies may unite to form a new corporation, mingling their properties and exchanging their securities for securities of the new company. This method of consolidation is illustrated by the case of the fusion in 1917 of the Union Electric Light & Power Company (of St. Louis) with the Perry County Public Utilities Company to form an entirely new legal entity known likewise as the Union Electric Light & Power Company.² This process, vari-

¹ Clearly, the device is a constant threat to the interests of creditors and minority stockholders. However, choice of a device rests with the promoters. Hence, this article is concerned with explaining why promoters prefer this device to others. No attempt is made to justify the consequences of its use in individual cases.

² This case is selected because it brings out clearly the distinction between amalgamation and merger. In amalgamation, or consolidation as legal discussions more frequently phrase it, an entirely new legal entity

(Footnote 2 continued on page 88)

ously called amalgamation, consolidation, etc., must follow the provisions of permissive statutes. (2) One corporation may acquire the stock of another corporation, take over its properties, assume its debts, and cause it to be dissolved. This process is illustrated by the history of the Edison Light & Power Company (Pennsylvania). Sixteen electric companies were merged into this company on June 1, 1913; and six were merged into it on July 1, 1915.³ The continuing corporation may acquire the stock of the merged corporation in exchange for its own securities, or for cash, or for both cash and securities. Thus the final economic result may be little different from amalgamation. This method is designated as merger in the New York statutes. (3) One company may purchase the entire properties of another. Thus on April 1, 1920, the Southwestern Bell Telephone Company "purchased the physical properties of the Southwestern Telegraph and Telephone Co., operating in the State of Texas, and of the Southwestern Bell Telephone Co., operating in the State of Oklahoma."⁴ The purchasing company may give in exchange for the properties cash, securities, or both cash and securities. The selling corporation may then, if it desires, distribute its holding of cash

and/or securities to its security holders and dissolve.⁵ Hence, the economic result of this method may likewise be little different from that of amalgamation. This method is known as sale of assets or as purchase of assets.

Whereas these methods are distinguished for technical reasons, for purposes of this discussion they may be considered as fundamentally of one class. It will be noted that, in each case, one corporation acquires the properties of several. In each case, according to common usage of the terms, the stockholders of the disappearing corporation may become stockholders of the surviving corporation. In each case, there will probably be extensive readjustments of executive control, some officers necessarily relinquishing at least a part of their former duties and powers. And, finally, in each case, a valuation of the properties taken over must be negotiated; and if stock be the consideration received for turning over the properties, it will be necessary to value all properties involved, in order to place all security holders in equitable positions.

Obstacles Overcome by Employment of the Holding Company Device

Consolidation by any of the above methods is fraught with obstacles.

22, 1931, p. 7), that "an important reason for this consolidation . . . appears to have been the desire to close the liens of the first mortgage of Union Company (number 2), the prior liens of the Missouri Edison Electric Company, and the Missouri Edison Electric Light and Power Company, and to subject the property of the Electric Company of Missouri and all other after-acquired property to a first lien of an existing refunding and extension mortgage probably to improve the credit standing of bonds issued under the latter mortgage, otherwise all new property would have been subject to the limitation of the 'after acquired' property clauses of the old liens."

³ Poor's *Public Utilities Manual*, 1927, p. 2119.

⁴ *Ibid.*, 1926, p. 1399.

⁵ In the case of the Adams Express Company, the company was continued as an investment trust instead of being dissolved.

(Footnote 2 continued from page 87)

is created; in merger one of the old constituent corporations continues its legal existence and absorbs the other companies. This distinction is technically important because it affects the rights of creditors, etc., against the consolidated enterprise. Thus, after-acquired clauses of mortgages of the old companies do not reach property acquired by the new corporation in case of amalgamation; but the after-acquired clauses of mortgages of the continuing company in a merger do attach to subsequently acquired property, including the property of the merged company or companies. Hence, when after-acquired clauses exist, corporations are frequently amalgamated rather than merged, in order to close the liens. For example, in the Union Electric Light & Power Company case under discussion, Mr. A. E. Lundvall testified during a Federal Trade Commission investigation (*United States Daily*, May

Though some obstacles will persist under any arrangement of ownership, many of the more important obstacles tend to disappear when the properties are brought under single stock ownership. Negotiations that would be exceedingly difficult, if conducted between independent parties, become mere formalities when the various corporate participants are under common control. Because of this advantage of common control, by far the largest number of consolidations by direct ownership of properties are preceded by unified stock control of the constituents. In this connection, as in others, the holding corporation is the chief vehicle of unification, although individuals of large means, as well as trusts, also function in this capacity.

The obstacles eliminated by unification of control may be conveniently grouped into four classes: (1) opposition of corporate officers, (2) obstruction by minority stockholders, (3) difficulties of negotiating comparative values, and (4) difficulties incident to arranging the affairs of the constituent corporations.

Opposition of Corporate Officers. Corporate officials are in a strategic position to block consolidations by direct ownership of properties. Each of the three methods of consolidation by direct ownership requires the negotiation of an agreement between representatives of the respective corporations. This agreement is then approved by the board of directors and submitted to the stockholders for ratification. Thus, from the start, corporate officers are in a position to block proceedings and, not infrequently, they take advantage of their positions by preventing consolidations from taking place. Their motive for obstruction is usually the fact that they feel they will lose their positions as chief executives and become subordinate officials of the larger organization. Naturally,

they do not take kindly to loss of prestige. Hence, to avoid real or fancied humiliation, they disregard economic considerations favorable to the stockholders as a whole. For example, Mr. W. R. Basset, of Spencer Trask and Company, cites the case of a man who refused to join a consolidation plan because "to become a mere vice president of the merger instead of president of a smaller concern would impair the social standing of his family and himself."⁶

Although it is true that, in case of such obstruction by officers, the stockholders might depose the present management or might call a special stockholders' meeting to act on the matter, these alternatives are not ordinarily available because the officers will have protected their positions before the stockholders have grasped the situation. The procedure usually followed by the officers in this respect is to form a voting trust and then secure the deposit of enough stock to prevent consummation of the consolidation plan. This method was used extensively among Connecticut public utilities in 1927, and has recently assumed considerable importance in New York City transit affairs. Thus the *New York Journal of Commerce* stated:⁷

"An amendment to the State corporation law which would bring to an end the present voting trust agreement of the Interborough Rapid Transit Co. was recommended yesterday by William G. Fullen, chairman of the Transit Commission, who appeared as a witness before the special legislative committee investigating the Public Service Law of the State."

Speaking of the I. R. T., Chairman Fullen said:

⁶ *Operating Aspects of Mergers* (New York: Harper & Brothers, 1930), p. 139.

⁷ November 19, 1929, p. 4.

"The commission thinks that if the voting power were returned to the stockholders and all of the directors were elected by them, the stockholders would elect directors favorably disposed for entering into negotiations to make the Interborough Co. a part of the commission's scheme of unification."⁸

Of course, the voting trust method may also be employed to prevent stock control from being exercised by a holding company. Yet, in many cases, a holding company can accumulate stock in the open market and by private negotiation when open negotiations with officers of the desired company would prove suicidal to its plans.

Obstruction by Minority Stockholders. The difficulties of overcoming obstruction by minority stockholders center largely upon legal considerations. Legal procedure requires that the stockholders ratify amalgamations and sales of total assets of corporations. In the absence of statutory or charter provisions to the contrary, such ratification is complete only when unanimous consent has been given. However, statutes of approximately $\frac{1}{2}$ the states permit amalgamation or sale of total assets with less than unanimous consent of the stockholders. The typical requirement is that the plan be ratified by $\frac{2}{3}$ of the amount of the stock outstanding, although in a number of cases a bare majority of the amount of the outstanding stock is sufficient to ratify the consolidation agreement. Section 86b of the Stock Corporation Law of New York illustrates the general procedure authorized by such statutory provisions. The New York statute requires that the certificate of consolidation be

ized to execute and file such certificate by the votes, cast in person or by proxy, of the holders of record of two-thirds of the outstanding shares of such corporation entitled to vote thereon, and that such votes were cast at a stockholders' meeting held upon notice as prescribed in section forty-five of the stock corporation law to every stockholder of record of the corporation entitled to vote thereon, and the date of such meeting."

It is readily seen from the wording of the foregoing statute that a small minority stockholding interest is fortified with a disproportionate amount of obstructive power. The disproportion becomes doubly apparent in those cases in which the statutes require approval by substantially more than $\frac{2}{3}$ of the outstanding stock, as is the case in Colorado, Michigan, Indiana, and several other states.

This power of obstruction is productive of much delay and litigation in consummating consolidations by direct ownership of properties. In some cases the legal safeguards have appeared to be little more than instruments for blackmail by which unscrupulous minority interests exact extreme prices for their stock. In other cases, they have been bulwarks for the protection of a minority from the designs of an unscrupulous majority. The obstruction itself usually displays several well defined procedures.

The first procedure consists in the formation of a protective committee and in the solicitation of sufficient proxies to defeat ratification of the consolidation plan. During this process the leaders of both sides may seek to buy sufficient shares in the open market to carry out their plans. The recent fight of the Cyrus Eaton interests to prevent the Youngstown Sheet and Tube-Bethlehem Steel consolidation illustrates this procedure in all its bitterness. To combat the merger, interests headed by Cyrus S.

"subscribed and acknowledged by the president or a vice president and the secretary or an assistant secretary of each constituent corporation, who shall make and annex an affidavit stating that they have been author-

⁸ *Ibid.*

Eaton formed a stockholders' proxy committee. They also engaged in an extensive stock purchasing campaign, purchasing 91,000 shares of stock between the date of record, March 22, 1930, and the date of the stockholders' meeting, April 11, 1930.⁹

A second procedure is to contest the validity of the votes cast in ratifying a consolidation. This procedure assumes special prominence when substantial blocks of stock have changed hands between the date of record for voting and the date of the meeting as was true in the above case. The Eaton case is likewise illustrative of this procedure of obstruction, since long and costly litigation was resorted to in an effort to have the ratification invalidated.

A third procedure arises when no question as to the adequacy of the ratification of the consolidation plan arises. In this last class of cases minority interests seek to prove that the terms are unfair to them. Thus the *New York Times* of March 3, 1928 contains the following items concerning a merger project promoted by Public Service Corporation of New Jersey:¹⁰

"The stockholders' protective committee formed by shareholders of the Essex and Hudson Gas Company, Hudson County Gas Company, Paterson and Passaic Gas Company and the Somerset Union and Middlesex Gas Company, headed by W. Emlen Roosevelt & Son, has announced the filing of a brief with Vice Chancellor Backes attacking the proposed merger of these companies by the New Jersey Electric and Gas Company as inequitable" . . . "The protective committee has obtained a temporary injunction against the merger of these companies, all of

which are leased to the Public Service Electric and Gas Company and is seeking through the brief just filed to make the injunction permanent."

To avoid obstruction of the types indicated above, promoters often accumulate control of the constituent corporations by purchasing stock in the open market or at private sale; then, if sufficient stock has not been acquired by these means, they rely upon an attractive offer to obtain the additional amount required for the project. Thus American Water Works and Electric Company, Inc., states in its annual report for 1925,¹¹ that

"During the past few years company has acquired all of the common stock of the Potomac Edison Co. and Keystone Power & Light Co. which companies serve a territory contiguous to that of the West Penn System, with the idea of ultimately welding all of these electric systems into a single unit, the advantages of which arrangement are universally recognized."

By thus accumulating control, the promoters avoid the difficult process of educating the stockholders to the detailed merits of the consolidation plan and avoid some obstruction. However, in carrying out a plan of this kind, considerable capital is required for the purchase of voting securities. Herein lies the chief advantage of the holding company in the process, for the holding company can sell its own securities to provide the funds, or better still, can offer to exchange its securities for those of the company sought. Although in some

terests contending that the stock purchased by them after the date of record could not be voted by the opposing faction. As the effect of such purchases becomes clarified by statutes and by court decisions, this method of obstruction will dwindle in importance.

¹⁰ P. 24.

¹¹ 122 *Commercial and Financial Chronicle* 2793 (May 15, 1926).

⁹ For a fuller account see *Standard Corporation Records*, vol. 8, §5, p. 5745, June 20, 1930, and vol. 9, §5, p. 1207, April 24, 1931. The purchase of stock after the date of record is of importance only if it prevents that stock from being voted at the subsequent stockholders' meeting. In this case the effect of such purchases was a matter of legal uncertainty, the Eaton in-

cases the exchange of securities might be obstructed by most of the considerations affecting the negotiation of a direct amalgamation, frequently there is less objection to becoming a security holder in an established holding corporation than in a newly promoted amalgamation. In so far as ultimate amalgamation is contemplated, the holding company may conceal its intentions until the amount of stock required by the plan has been obtained; then, in absence of fraud, opposition is powerless to prevent fusion of the properties. For example, investment manuals for 1927 do not show that Public Service Corporation of New Jersey owned voting control of Newark Consolidated Gas Company, New Brunswick Light, Heat and Power Company, The Ridgewood Gas Company, and South Jersey Gas, Electric, and Traction Company, yet facts which were disclosed when the Public Service Corporation attempted to merge those companies with the Public Service Electric and Gas Company indicate that such control existed prior to the publication of the manuals.¹²

Difficulties of Negotiating Comparative Values. The problem of negotiating comparative values is one of the greatest obstacles to amalgamation. If different interests control the corporations to be amalgamated, each tries to enter its properties in the consolidation at as high a valuation as it thinks it can secure. The result is that negotiations are often undertaken on the basis of inflated valuations which frequently interpose permanent obstacles to the consummation of the project. However, if the promoters purchase stock control of

the properties as a preliminary step, the matter of arranging the contract of amalgamation becomes a mere formality, since the promoting interest controls all parties to the contract.

In this connection, it may be noted that the holding corporation, both the pure-holding and the combination operating-and-holding corporation, is a much more satisfactory device through which to exchange stocks than is the proposed amalgamated company. Once the holding corporation is in existence, the market price of its securities can be pegged at a favorable level; after that an attractive offer can be made to the stockholders of the company wanted. If necessary, the price of the stock of the holding company can be pooled upward during the period of the offer, thus tending to force the exchange of shares. Such market control can be held within reasonable limits, as appears to be the case with the General Foods Corporation; or it can be carried to the wild extremes that attended the expansion of Warner Brothers Pictures Corporation during 1930, when common stock of that corporation was pooled 15 points above the peak reached in the frenzied 1929 bull market.¹³ If market prices are thus pegged at artificially high levels, the promoters can make exchange offers which are very attractive in terms of market values but which are not necessarily very costly in terms of claims to earnings and assets. However, present market values without extensive market support ordinarily influence the stockholder to make the exchange. Thus the plan is consummated without any very great concessions in real values.

¹² See 90 *Electrical World* 34 (July 2, 1927). However, in this case the merger was permanently enjoined after two years of litigation. The injunction was granted on grounds that the plan was unfair to the minority stockholders.

¹³ The author has no knowledge of the extent, if any, to which the management of Warner Brothers Pictures Corporation was interested in these pool operations; however, the fact remains that the expansion policy was hastily pressed forward during the period of securities manipulation.

Difficulties of Harmonizing Corporate Constituents. Of more importance, perhaps, than the obstacles previously discussed, is the problem of arranging the affairs of the constituent corporations so that the consolidation of properties may take place. Consolidation by direct ownership of properties involves multitudinous considerations of state laws, franchise restrictions, duration of franchises, restrictions on security issues, charter powers, duration of bond issues; the state of the money market, laws governing legal investments, the attitude of regulatory bodies, relative positions and ranks of executives, the valuations at which properties are to be carried by the new company,¹⁴ the problem of securing other properties to round out systems, etc.—matters as diverse and intricate as human ingenuity can make them. Needless to say, adjustment of these matters is a long and tedious process, involving a period of stress during which absolute control of the constituent companies is a practical necessity.

Holding corporation control provides the necessary uniformity of interest dur-

ing periods preparatory to amalgamation. In fact, some public utility systems have been so impressed with its advantages that they have developed specialized sub-holding companies whose chief function is to control the stocks of companies which are to be amalgamated or merged. Thus, in 1926, President W. S. Barstow of the General Gas and Electric Corporation explained the work of the specialized sub-holding company of that company's system as follows:¹⁵

"The General Finance Corporation is used principally as a vehicle for acquiring small properties adjacent to subsidiary companies, causing them after reorganization to be merged directly with the operating properties."

Fitkin Utilities (Inc.) was a similar clearing agent for the National Public Service Corporation system when the latter was under Fitkin management.

Frequently, regulatory commissions have likewise recognized that the holding corporation relationship facilitates the solution of these problems. For example, the Nebraska Railroad Commission states in one of its decisions:¹⁶

"Describing the organization of the Florida Power & Light Co., another subsidiary of American Power & Light, Mr. Lundvall testified that assets acquired by the Florida company were entered on its books at \$58,445,216, although the assets had been carried on the books of the predecessor companies at a value of only \$28,213,209. The 'write-up' was slightly more than \$30,000,000, he said."

For further details of this practice, the reader is referred to the first 26 parts of Senate Document 92, 70th Congress, 1st Session. These reports contain the findings of the Federal Trade Commission under Senate Resolutions Nos. 83 and 112.

Probably the actual writing-up of the properties is of far less social significance than is the attendant capitalizing of these revaluations in the financial structures of companies since bonds and preferred stock outstanding cannot be reduced with a declining price level; nevertheless the latter aspect of the question has attracted little public attention.

¹⁵ 88 *Electrical World* 1190 (December 4, 1926).

¹⁶ *Re Continental Gas and Electric Corporation*, P. U. R. 1925 A 45. Other commissions have also opposed use of this device because of the difficulties of regulation and the dangers to creditors and minority stockholders.

¹⁴ The "writing up" of property valuations on the books of the consolidated company has apparently been one of the most important factors influencing prior stock control of public utility operating companies. In a number of cases the book value of properties has been practically doubled during the amalgamation process; and in most cases substantial write-ups have taken place. The following summary of testimony by Mr. Arthur E. Lundvall at a Federal Trade Commission hearing on May 2, 1930 (*United States Daily*, May 3, 1930, p. 12), will illustrate the practice:

"The opening balance sheet of the Minnesota company showed a plant and securities account of \$42,095,534, Mr. Lundvall said, and of this \$8,517,528 was the value of stocks of the Great Northern Power Co., as shown by its cost to American Power & Light. The remainder of the amount, or \$33,578,006, represents the book value of the properties of various companies transferred to Minnesota Power & Light, and these were carried on the books of the several companies before consolidation at a total of \$13,326,323. The new valuation, Mr. Lundvall said, represents a "write-up" of \$20,251,682, or 152 per cent, in the value of the properties."

"The Commission is unanimously of the opinion that the general plan of complete ultimate consolidation should receive our approval. This approval is bottomed upon the assumption that so rapidly as economy will justify, progress in complete amalgamation shall be made. The mere purchase of a controlling interest in one corporation by the other, not followed by physical consolidation, would not justify our approval."

Duration and Complexity of Holding Company Control

The adjustment of obstacles previously mentioned may require a long term of years. Thus the original plan of consolidation and development promoted by the Electric Bond and Share Company in Texas required five years for its execution; and the Utah and Colorado projects, promoted by the same corporation, required double that period. Other undertakings have required less time; but, in practically all cases, there have been periods of readjustment.

When the magnitude of transactions is slight, the stock control relationships may be of the most temporary and simple nature; but when large enterprises are involved, it may be desirable to develop an extremely elaborate series of holding corporation interrelations. An excellent example of complex interrelations is afforded by the steps taken in forming the New York Power and Light Corporation, a direct property-owning corporation. This system was first consolidated under the control of the Mohawk Hudson Power Corporation (a pure holding corporation) in 1925. As a part of the process of transferring the stock control of the operating corporations to the Mohawk Hudson Power Corporation, six holding corporations were organized to acquire the voting stocks of different operating companies. Later, these six holding corporations were fused under the name of the Mo-

hawk Hudson Power Corporation. Concerning these corporations, the *Commercial and Financial Chronicle* records the following:¹⁷

"Papers were filed with the Secretary of State at Albany, October 9, merging Adirondack Power Securities Corp., Wanita Holding Corp., Ontario Power Securities Corp., and Niagara Power Securities Corp., with Mohawk Hudson Power Corp., and on October 10 papers were filed merging Lockport Power Securities Corp.

"The companies merged with Mohawk Hudson Power Corp. were organized in connection with the issuance and exchange of securities incident to the formation of the Mohawk Hudson Power Corp. several months ago, and are said to be without significance otherwise. They were used in the acquisition of the stocks for the new company."

Prior to the merging of these interim holding companies, on June 23, 1925, in a hearing before the New York Public Service Commission, attorneys for the Mohawk-Hudson Power Corporation stated that it would be only a matter of a short time before they would apply to the Commission for permission to amalgamate the corporations which they then sought to control through stock ownership. Nevertheless, it was more than two years before affairs were adjusted and the Adirondack Power & Light Corporation, the Municipal Gas Company of Albany, the Troy Gas Company, the Cohoes Power & Light Corporation, the Fulton County Gas & Electric Company, and the Adirondack Electric Power Company—the operating subsidiaries—were consolidated into a single corporation known as the New York Power and Light Corporation.

Holding Corporation Control as a Trial Device

Not all consolidations meet the expectations of promoters.¹⁸ Nor do all

¹⁷ See A. S. Dewing, *Corporate Promotions and Reorganizations* (Cambridge: Harvard University Press, 1914).

¹⁸ October 17, 1925, p. 1908.

consolidations turn out to be so desirable as at first considered to be. The failure of numerous past consolidations suggests that considerable caution should be exercised in uniting corporations. Once the properties are scrambled in a direct property-owning consolidation, it is very difficult to segregate them again. For example, Public Service Company of Northern Illinois has been unable to rid itself of a steam heating business which was developed during the days of exhaust steam sales by small generating stations. Likewise, other companies have found it very difficult to divest themselves of unprofitable electric railways because the properties are not held by separate corporations. The holding corporation meets this situation by permitting a trial period of operation under unified ownership of the properties. If results meet expectations, the final step of complete amalgamation or merger can be taken. If results do not meet expectations, the unscrambling can be done with a minimum of difficulty. In this connection, it may be observed that commissions might, in doubtful cases, insist on a trial period of consolidation by stock control, that the social advantages of the plan may be demonstrated to be more than vague imaginations.

Frequency of Use of the Holding Company Method

In an effort to ascertain the procedure followed in the public utility industries in cases in which one company acquires the properties of another, the author investigated approximately 1,000 cases of amalgamation, merger, and purchase of assets. This study covered cases arising between 1895 and 1926, when independent public utility properties were more numerous than at the present time. Cases of transfer of properties were traced in the electric light and power,

manufactured gas, natural gas, telephone, telegraph, street railway, bus transportation, and ice manufacturing industries. A large number of these cases involved the sale of unincorporated business enterprises, municipal plants, and water power developments of non-related businesses, such as pulp and paper companies, cotton mills, etc. Since these properties were not incorporated and hence were not susceptible to holding company control, they were eliminated from further study. In numerous other cases, published reports did not disclose the information desired. Therefore, these cases were also eliminated. As a result of various eliminations only 637 cases were finally used. Forty-four of these were cases of sale of total assets of corporations and 593 were cases of amalgamation or merger.

Of the consolidations effected by sale of assets, 27 of the selling companies were under the same control as was the purchasing company. These companies ranged in importance from the Bell Telephone operating companies in Texas and Oklahoma to small town power plants. The remaining 17 conveyances were made by companies which were apparently not under the same control as were the purchasing interests. The capitalization of these companies ranged from \$17,000 to \$52,000, indicating that the small amounts involved made a previous stock control relationship of minor importance.

Of the 593 cases of amalgamation or merger, the constituent companies were under common financial control in 518 instances; and in each case the holding company device was employed. Published statements attending the other 75 cases did not indicate common control, if any.

Although in the preponderance of cases cited above, holding corporations

controlled the constituents, no attempt has been made to establish an absolute ratio of holding corporation control cases to total cases. Nevertheless, for practical purposes, it may be said that holding corporation control precedes outright fusion in a large majority of the cases. However, this intermediate consolidation step is not always consciously taken. Indeed, in a considerable number of cases, direct property-owning consolidations appear to have resulted from stock control consolidations which were first organized apparently with no intention of their evolving into outright

fusions. Notwithstanding, this class of cases indicates only that holding corporation control was used unconsciously rather than consciously as a preliminary step in the fusion process.

Conclusion

In summary it may be said that a consideration of the obstacles and a study of actual cases of consolidation by direct ownership of properties indicate that, from the point of view of the promoter, common financial control is a desirable and very generally used preliminary to actual transfer of the properties.

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The Evolution of Steam Railroad Electrification

By MYLES E. ROBINSON

WITHIN the past quarter of a century the electrified steam railroad mileage of the world has increased markedly. Although by far the greater part of this increase has taken place in the United States and in the more densely populated areas of Europe, several outstanding electrifications have occurred in other sections of the world. Among these are to be noted: the Cape Town installation, serving certain South African passenger and light freight traffic; the heavy freight electrifications in the mountainous areas of southeastern Brazil and central Chile; and the recent installing of electric traction in Japan. These electrifications, while important as representing attempts to solve difficult operating and traffic problems, are isolated instances of the application of electric traction to unusual conditions and must of necessity be left out of the following treatment of the development of steam railroad electrification. The attention of the reader will be directed to electric traction installations in Europe and the United States, particularly in the latter.

The treatment of the subject will fall under the following heads: (1) a brief analysis of the major reasons usually assigned for electrification; (2) the origin, growth, and present status of electric traction in Europe; and (3) the develop-

ment of electrification in the United States. Much of the statistical material presented has been condensed from a number of recent reports on electrification.¹

I. Reasons for Electrification

Most electrifications have been the result of a combination of factors rather than of any one single cause. With but one exception, the replies to certain questionnaires sent out by the National Electric Light Association to railroads with electrified sections listed from three to five reasons for each electrification. The exception was where "general operating economies" were listed as the chief motivating factor. As a consequence, no little difficulty is encountered in attempting to analyze the major causes for electrification. It is possible, however, to make a rough grouping of these causal factors in the approximate order of their frequency (Table I).²

In addition to the 18 roads replying to the questionnaires, two other and more recent electrifications have resulted from somewhat similar conditions. One of these, that of the Wilmington-Philadelphia Division of the Pennsylvania (now in progress), has been undertaken to meet competition.

A second road, the Delaware, Lackawanna and Western, is electrifying its suburban service at the request of a

¹ Among the reports consulted were the following: *Serial Report of the Committee on Electrification of Steam Railroads*, N. E. L. A., 1929, 1930; *Report of Committee on Heavy Electric Traction*, A. E. R. A., 1928, 1929, 1930.

It is regrettable that the only work to date which attempts to cover the entire field of the economics of steam railroad electrification, Professor Kent T.

Healy's *Economics of Steam Railroad Electrification* (New York: McGraw-Hill Co., Inc., 1929), is practically undocumented. Mr. Healy has not seen fit to indicate the sources of his data and therefore one is unable to check their accuracy.

² Data on European electrifications are meager and inadequate in ascertaining the causes assigned for electrification.

number of towns along its route. These towns have agreed to guarantee a certain rate for the service to be furnished them, a rate which will meet the cost of electrification in part.

TABLE I. REASONS ASSIGNED BY UNITED STATES RAILROADS FOR ELECTRIFICATION, WITH FREQUENCY.

Reasons	Frequency Assigned	
	Railroads	Divisions
General economy; increase of facilities.....	13	20
Smoke elimination.....	9	9
Legislation.....	7	7
Operating economies.....	6	8
Grade elimination.....	4	4
Suburban service improvement	2	4
Terminal switching.....	2	3
Better service and schedules...	1	1
Interchange facilitation.....	1	1
Total.....	45	57

Since it is virtually impossible to segregate from the table just given the reasons for the installation of electric traction except in a very general way, a classification of the major causes of electrification may be useful. Such a classification may be subdivided into "voluntary" and "compulsory" electrifications keeping in mind that such factors as declining revenues, lack of adequate facilities, and difficult operating conditions may themselves exert a degree of compulsion. The term "compulsory," as used hereafter, will refer to the operation of governmental and non-economic forces outside the railroad organization and not affected directly by its operation.

"Voluntary" electrification, characteristic of most European electrifications and of main-line electrifications in this country, may result from any one or combination of conditions. The most important of these have to do with increasing the net revenue of the carrier by increasing the operating revenues more

³ The terms "route miles" and "track miles" should not be confused. The former has reference to miles of system route and the latter to miles of track. The latter

than operating expenses. Obviously, investment charges are also a factor in determining the desirability of installing electric traction. However, the initial impetus arises from a desire to increase the net operating revenue. The Virginian electrification of 1926 was intended to cut down high operating expenses. The Chicago, Milwaukee and St. Paul, faced with somewhat similar operating difficulties caused by the rough profile of its roadbed, has installed electric traction on approximately 660 route miles of its Rocky Mountain and Cascade Divisions in order to secure the advantages of lower operating expenses.³ In France, Germany, and Switzerland a number of electrifications have been accomplished with this purpose in mind. It is safe to say that over $\frac{3}{4}$ of all electrifications, both in Europe and in this country, have resulted either directly or indirectly from a desire to cut operating expenses more than the increased investment cost.

A second factor which results in voluntary electrification and which is hardly separable from the first is that of difficult, physical operating conditions. A number of electrifications have been made where operating conditions were hardly severe enough to force electrification and yet definite advantages from a purely operating standpoint were to be gained by the venture. Among these were the installations of the Virginian, Milwaukee, and the Butte, Anaconda and Pacific electrification of 1913 when some 25 route miles were placed under electric traction. Electric operation at the time was only slightly less expensive than steam. However, future development of the copper fields seemed to presage the need for a more efficient

is usually somewhat larger than the former as the majority of electrifications are on two- or three-track lines.

mode of transportation. The electrification of the Midi Railway in France was motivated by the same factors.

A third reason which may belong in the "voluntary" classification is that of competition. It is, of course, difficult to say that a road is not being compelled to electrify when this measure is adopted to meet the competition of other carriers or other transportation services. Though none of the roads answering the questionnaires specifically stated that competition was the main factor behind their venture in electrification, in most cases it takes but little reading between the lines to see the significance of the competitive factor. In recent years in the United States this competition has come from other types of transportation rather than from other carriers engaged in the same type of transportation and potential competition is playing no small part in recent decisions to electrify. The determination of the Pennsylvania Railroad to electrify its Philadelphia-Wilmington and Harrisburg-Washington Divisions is admittedly the result, in part, of the rapidly increasing use of air transport.⁴

The second major class of reasons for electrification relates to the exercise of varying degrees of compulsion by either state or local authorities. Here again we may subdivide the classification. The most obvious instance of compulsory electrification is to be found where the city or state makes use of its power to protect the health and safety of its people by forcing a railroad to electrify a smoke-filled tunnel, a dangerous tunnel-terminal (such as the New York City approach to the Grand Central Terminal), or to eliminate the smoke "menace" in a congested terminal area. While such exercise of the police power

is usually confined to the removal of one or two "evils," occasions have arisen where wholesale electrification, intended to remedy a number of causes of friction between public and private interests, has been the objective. A case in point is the recent Kaufman legislation of the State of New York, making provision for ultimate electrification of all steam transportation services in any city of the State "having a population by the last State or Federal Census of 1,000,000 or more or within the limits of a city adjoining such city."⁵ However, such legislation has been declared unconstitutional in this country as it conflicts with the power of the Interstate Commerce Commission.⁶

A variation in compulsory electrification is to be found in those cases where the city and the railroad agree to cooperate in constructing a tunnel, terminal approach, or highway, and where the parties are to participate in the use of the completed structure. An illustration is the electrification of the West Manhattan yards of the New York Central, in which instance the City of New York cooperated with the railroad in erecting a superhighway, the substructure of the highway carrying the catenary and supports for electric operation of freight movements. Another instance, though less "compulsory" in nature, is that of the recently formulated plans of the Grand Trunk Railway and the City of Detroit. Here an elevated highspeed highway is to be constructed from Detroit to Flint, Michigan, the highway substructure to support electrification equipment.

It may be questioned whether the electrifications mentioned above are in any sense of the word "compulsory."

York, New York Laws 1924, 626, §53-a.

⁴ Designed to meet the New York-Washington air competition.

⁵ Public Service Commission Law of the State of New

⁶ *Staten Island Rapid Transit Company v. Public Service Commission*, 16 Fed. (2d) 313 (1926).

They are, to the extent that pressure of various sorts is brought upon the carrier to electrify. Use of the press, legislative lobby, and other methods of pressure have in many cases been instrumental in forcing electrification. However, the "cooperative agreements" constitute borderline cases. They are neither purely compulsory nor can they be termed entirely voluntary.

It must be admitted that the reasons for electrification are rarely clear-cut, one-hundred per cent voluntary. Nor are they clearly compulsory in nature.

II. Development of Railroad Electrification in Europe

In 1893 the first steam railroad electrification in Europe was put in operation when the Roslags Railway of Sweden initiated electric service on its Djursholm-Stockholm Division. As in most of the Swedish electrifications, scarcity and high cost of coal and the abundance and relative cheapness of water power were contributing factors. Investment costs were of necessity quite low as the traffic consisted of bulky, low-grade commodity freight which could not bear the burden of higher per-mile costs. At present, Sweden's electrifications are all in freight service and will probably remain so in the immediate future as the passenger traffic of the country is meager and will hardly bear its share of general operating expenses.

Six years after the Roslags electrification a short electric installation took place between Burgdorf and Thun in Switzerland. The necessity for fuel conservation was given as the chief motivating factor of the first of the numerous Swiss electrifications. Physical operating handicaps also played an important role. Switzerland in 1929 had electrified over 51% of its steam rail-

road route mileage and leads the world in the degree of railroad electrification.

Since 1900 Europe has witnessed extensive electrifications. Most of these have been voluntary, although the fact that a large number of Europe's railroads are governmentally owned or operated detracts somewhat from the significance of the so-called "voluntary" characteristic. As conditions among the various European nations having extensive electrifications are so dissimilar, it will be necessary to summarize the general situation without respect to the development of electric traction in each country. To do more would be impossible within the scope of this paper.

Switzerland leads the world in the proportion as well as in total of route miles electrified. Her nearest competitor in the degree of electrification is Austria (Table II).

TABLE II. STEAM RAILROAD MILEAGE ELECTRIFIED IN EUROPE AND THE UNITED STATES, 1929.*

Country	Total Route Miles	Route Miles Electrified	Percentage Route Miles Electrified	Type of Service Electrified	Date of Installation
Austria.....	4,188	443	10.7%	Frt. Pass.	1907-28
Czechoslovakia...	8,289	31	.4	Frt. Pass.	1903-28
France.....	26,872	732	2.7	Frt. Pass.	1900-28
Germany.....	35,807	964	2.7	Frt. Pass.	1903-28
Italy.....	13,385	1,072†	8.9	Pass. Frt.	1901-28
Netherlands.....	2,354	34	1.7	Pass. Frt. ‡	1907-29
Spain.....	9,705	170	1.8	Frt. Pass.	1924-29
Sweden.....	10,110	719	7.1	Frt.	1902-26
United Kingdom.....	21,165	463	2.2	Pass.	1903-29
Switzerland.....	3,492	1,790	51.0	Pass. Frt.	1899-28
United States.....	249,151	1,786	.7	Pass. Frt.	1895-29

*1929 Survey, National Electric Light Association.

†On standard gauge railroads only.

‡Freight transportation negligible. Where the type of service is given as a combination (Pass. Frt. and vice versa), the former type predominates over the latter.

Neither percentage nor route mileage data accurately picture conditions. Of the countries listed only six have electrifications which are significant as representing attempts to remedy certain operating evils. The electrifications of Austria, Czechoslovakia, the Netherlands, Spain, and to a certain degree

Italy, are relatively unimportant. Of the remaining countries, the electrifications of France, Germany, and the United Kingdom are of interest from the standpoint of coordinated services and operating efficiency. A brief survey of each of these will reveal to what extent the major electrifications of Europe are solving the type of operating problems faced in the United States.

British electrifications date from 1903 when the first London suburban installation was completed. By far the greater part of the railroad electric network of the Nation is involved in suburban service. Very little freight movement is undertaken. Consequently, instead of a number of electrification problems, such as are to be found in Germany and France, the problem is relatively simple as far as coordination of services is concerned. Since the 123 English railroad systems were consolidated in 1923 to effect operating economies, there are but four main transportation companies. Three of the four have their suburban service partly electrified. The major constructions are in the London and Liverpool areas. As the interlocking trackage in these areas is unusually large and the distance between suburban stations short, traffic congestion, particularly in the peak-load hours, presents a difficult operating problem. The Government, realizing the need of a high degree of service and schedule coordination, is using its influence to obtain the installation of low-voltage, direct-current installations. Most of the electric traction area is at present provided with this type of power feed. The third-rail system is used in every case.

There seems little prospect in the near future for extension of British electrification except in suburban districts. In the first place, traffic movement as compared with American stand-

ards is comparatively light. With the exception of certain freight movements from Liverpool to London, little revenue is to be obtained from main-line, through service. Again, the supply of low-grade fuel is sufficient to take care of present operations. Equipment is lighter than in the United States and roadbed upkeep not as important an item. Incidentally, most of the English electrifications have been undertaken to promote more efficient operation, particularly in congested suburban areas.

France has electrified less than 3% of her steam railroad route mileage. Only a very small portion of the total amount of electrification is in suburban service. In 1920 the French Ministry of Public Works made a careful survey of the advantages and disadvantages of electric traction throughout the major railroad territories of the country. The Midi and the Paris-Orleans Railways, the former with approximately 535 miles of route already electrified, have undertaken surveys as to the advisability of electrifying larger portions of their systems. Both the 1920 Ministry report and the individual surveys of the two roads indicate that little increase in electrification of existing steam lines is needed or to be expected. Traffic in the congested areas around Paris, Lyons, and Marseilles is being adequately and cheaply handled by steam power. The major portion of the French electrifications is in central and southern France where fuel is scarce and relatively dear and water power fairly plentiful.

If one except Switzerland, Germany has the most widespread and varied systems of electrification in Europe. As the former can hardly be compared to the latter country for industrial and economic status, it will be omitted from detailed discussion. Germany has electrified a slightly higher percentage of

its steam railroad route mileage than France. There are four chief zones of electrification. Arranged in the order of their size and according to route miles operated under electric traction, they are: Bavaria, 434; Silesia, 213; Berlin, 145; Middle Germany, 114. In the Berlin zone only is to be found a purely suburban installation. The Bavarian electrification centers about Munich and has developed to such an extent that little steam service is to be found in this zone. However, Munich itself is served largely by steam transportation. Power is purchased from a large hydro-electric system which virtually covers the entire state. The existence of heavy grades and rough profile in addition to the presence of cheap water power accounts for this electric installation. Comparatively little interchange of freight exists between the Bavarian and other zones at present. However, the expectation that such an interchange may develop has been taken into account and the type of system installed is such that it can readily be adapted to the type of power and contact found in the other zones. In other words, potential co-ordination of services and zones has counted in planning these installations.

Electrification in both the Silesian and Middle Germany zones has largely been the result of the availability of certain large quantities of coal of a grade which, while hardly suitable for locomotive boilers, was well adapted to power plant use. The fuel has a relatively low value which renders its transportation over long distances uneconomical.

In the Berlin suburban zone, as well as in the two zones just referred to, available power has been purchased rather than generated by the railroad.

Other European electrifications, while of some interest, have taken place in areas where neither passenger nor freight

service is highly developed. They cannot be dealt with here. Such are the Swiss, Italian, and Swedish installations. Two of these countries have already been given some notice here, and the third will be included in the following summary of certain salient points in European railroad electrification.

1. *Extent of Electrification.* Switzerland, Italy, Germany, France, and Sweden each has more than 500 miles of electrified steam railroad route miles. Austria and Great Britain follow closely. In the degree of total steam railroad mileage electrified, Switzerland leads the nations of the world with nearly five times the mileage electrified that is possessed by Austria, its nearest competitor. Of the major nations of Europe, Italy has electrified 8.9% of her route mileage (standard gauge), and Germany, France, and Great Britain trail with less than 3% electrification.

2. *Reasons for Electrification.* By far the larger part of Europe's electric traction has been installed voluntarily. In a few cases only have difficult operating conditions forced a change from steam to electric motive power. Such "forced" changes have occurred for the most part in suburban services. In general, it can be said that conservation of fuel, availability of cheap hydro-electric power, and opportunity of curtailing operating expenses, more than offsetting any increased fixed capital charges, have been the main causes for electrification. Compulsory electrification by the state or municipality is practically unknown in Europe. In many cases, of course, the railroads are owned by the government. Again, most electrification ventures undertaken by private enterprise are non-cooperative as far as other carriers or business enterprises are concerned.

3. *Type of Service Electrified.* Great

Britain and the Netherlands serve passenger traffic only (though the latter is in a position to transport freight). Sweden's electrification handles freight exclusively. Passenger service predominates in the electrified areas of Italy and Switzerland. Only France, Germany, and Great Britain have an appreciable amount of suburban electrification.

4. *Power Supply, Contact System, and Type of Distribution.* (See Table III.) Austria, France, Italy, and Great Britain have a fairly large amount of the total energy, utilized for electric traction, "railroad generated." The balance is purchased from private power plants. In the remaining European electrifications (where data are available), power is purchased from a central station which, in many cases, is government owned. No general rule has been adopted with respect to power source, even where the railroad electrifying is government

owned. In most cases the cheapest power which will meet the requirements is used, whether railroad generated or purchased from a private company.

Direct-current feed with relatively low voltage has the highest frequency of occurrence in European electrifications. Alternating current systems are primarily employed in freight service and in rough-profile territory. In the case of Italy, Sweden and Austria, A. C. feed is employed because of its lower cost, since few transformers are needed and substations need not be so frequent. Great Britain is the only nation which has attempted to standardize the systems used. Germany is expecting eventually to coordinate its four electrification zones but has made no move to standardize the group. The type of system adopted in each case, however, has been one which, if need arises, can be coordinated with a small amount of adaptation.

5. *Initiation of Electrification and Financing.* No data are available. Each case seems to have been settled on its own merits, which means that local conditions govern. No evidences of governmental pressure being brought to bear on the problem are apparent.

6. *The Future of European Electrification.* Most European writers who have touched upon the subject are somewhat pessimistic as to the possibility of widespread electrification, except in increasingly crowded terminal areas. Low traffic density and increasing competition of other forms of transportation are given as reasons for this attitude.

The subsequent installment in the May issue will describe the evolution of electrification in the United States and conclude with some observations concerning probable future developments in the application of electricity to steam railroad operation.

TABLE III. TYPE OF ELECTRIFICATION IN USE AND CHARACTER OF POWER SUPPLY, EUROPE AND THE UNITED STATES, 1930.*

Country	System Characteristics			Generated Power in Kilowatts	Percentage Generated to Total
	Voltage	Type	Collection		
Austria.....	5000-10000	A. C.	Overhead	59,330	76.7%
	888	D. C.	Third-rail		
Czechoslovakia	700-1500	D. C.	Overhead		
France.....	650-1500	D. C.	Third-rail	12,800	
	1500	D. C.	Overhead	350,519	85.2
Germany.....	550-800	D. C.	Third-rail		
	650-1000	D. C.	Overhead		
	3000-15000	A. C.	Overhead		
Italy.....	650	D. C.	Third-rail	18,678	72.0
	800-4000	D. C.	Overhead		
	3000-10000	A. C.	Overhead	248,147	58.9
Netherlands...	1500	D. C.	Overhead	45,100	
Spain.....	1500-3000	D. C.	Overhead	9,469	
Sweden.....	10000-16000	A. C.	Overhead	3,091	
Switzerland...	1000	D. C.	Overhead		
	750-15000	A. C.	Overhead	18,195	
Unit'd Kingdom	600-675	D. C.	Third-rail		
United States..	600-675	D. C.	Third-rail		
	650-3000	D. C.	Overhead	36,644	1.7
	6600	A. C.	Overhead		
	11000-22000	A. C.	Overhead		

*A number of sources have been consulted in the compilation of the above table. No one of these was sufficiently complete for the purpose. Mr. A. J. Manson's *Railroad Electrification and the Railroad Locomotive* (New York: Simmons-Boardman, 1925) has furnished some valuable data on power supply. Data contained in the 1929 electrification survey of the N. E. L. A. has also proved of value. No figures are available on the total power supply sources of United States electrifications.

Book Reviews

Lohmann, Karl B. *PRINCIPLES OF CITY PLANNING*. New York: McGraw-Hill Book Company, Inc., 1931. pp. x, 395. \$4.

This is primarily a textbook for instruction in city planning. Its format, with bold-face paragraph headings and armamentarium of "Questions for Discussion" will make it unnecessarily forbidding to the general citizen. The author, who teaches the subject to landscape architects and engineers at the University of Illinois, states that at least 87 institutions of learning offer professional or general courses in city planning; yet this seems the first attempt at a textbook.

Professor Lohmann's book is encyclopedic. There is a 35-page "Historical Glance at Development of Cities," which gives him space for one, two or three paragraphs each about a great number of towns from Karnak to Letchworth. A chapter on "The City Planning Movement in America" contains photographs and paragraphic biographies of (dead) planners. I do not see any principles brought out in this part of the book.

The major portion of the volume is a running commentary on a typical working city plan report. The chapters deal with streets, traffic control, transit, utility systems, parks, playgrounds, airports (which are treated at disproportionate length), and due regard is given to platting control, zoning, and the beautiful in the city plan. Tiny chapters at the end discuss the legal basis of planning and paying for the city plan. The illustrations are well chosen; the bibliographies at the end of each chapter, intended only to be suggestive and not comprehensive, are up-to-the-minute. One of the difficulties of the subject matter is that so many references must be to inaccessible reports or fugitive journalistic notes. The book is competently done.

Ordinarily there is no point in criticising an author for not having written a different kind of book from the one he sets out to write. But if this is a first textbook, it seems fair to ask: is the subject matter here presented truly the principles of city planning? Are we down to principles when we discuss the technique of street design and traffic control, without making the student ask whence and whither the traffic is flowing, and

whether energy might not better be directed to planning such rearrangements of work, home, and play, of production and distribution, as would eliminate many of the current traffic problems?

Is it realistic to discuss the merits of the gridiron plan in architectural and engineering pros and cons, without inviting the student's attention to its particular adaptability for (largely speculative) trading in land units as at least one element in its persistence? In the light of current legal analysis, what principle of eminent domain will be helpful in the student's thinking, when all we can say is that up to the present the courts have tended to make the community pay the individual for subtracting some of the sticks from the bundle of rights we call "property," while it is free to take others, sometimes economically more valuable, without charge?

Call these questions of sociology, law, economics, if you will; but why are they not as basic in city planning as are landscape architecture and engineering? Perhaps the failure of city planning wholly to capture the public imagination may be because it has too much concerned itself with technique (which is what Professor Lohmann really discusses) and has not yet worked out principles.

This may be setting the author a large order; but I feel that students of this book will get altogether too puny a notion of what city planning can and should be, and very little feel for its principles. Let the next edition contain at least a footnote reference to Patrick Geddes' *Cities in Evolution* and Lewis Mumford's *Sticks and Stones*.

CHARLES S. ASCHER

Sharfman, I. L. *THE INTERSTATE COMMERCE COMMISSION: A STUDY IN ADMINISTRATIVE LAW AND PROCEDURE*. New York: *The Commonwealth Fund*, 1931. pp. xvi, 317. \$3.50.

In this penetrating analysis of the Interstate Commerce Commission Professor Sharfman has set a standard for future studies which seek to evaluate the work of our administrative agencies. The book takes on added significance since the Interstate Commerce Commission may be regarded in many respects as a pioneer in the adminis-

trative field and its history may be said to epitomize public control over business in the United States.

Professor Sharfman has divided his study into four parts which, when completed, will describe and evaluate (1) the legislative basis of the Commission's authority; (2) the scope of its jurisdiction; (3) the character of its activities; and (4) the Commission's organization and procedure.

Part I traces the antecedents and the evolution of the Commission in the light of its legislative authority. The Commission began as hardly more than an advisory body, and has constantly struggled for more power. The main theme of Part I is an evaluation of the success or failure of the Commission at each stage of its growth on the basis of what was accomplished under the actual authority granted and in the light of the difficulties under which the Commission was forced to carry out its policies. The handicaps become apparent when one realizes that prior to the passage of the Transportation Act of 1920 Congress tended in the main to pass negative legislation, when positive legislation was desired. Court decisions further circumscribed and negated much of the work attempted by the Commission.

The passage of the Transportation Act of 1920 brought positive legislation and thus marks the beginning of a new era in railroad regulation. The act was the culmination of a long evolutionary growth by trial and error and benefited by the thought and experience of a whole generation of commission control. It is still too early to predict whether or not the power given to the Commission allows governmental interference to outrun the bounds of wisdom, but, if regulation does not bring expected results under this act, either public control will be substantially relinquished or public management will become a fact.

Professor Sharfman's comprehensive analysis and painstaking method arouse admiration and his style is pleasing. Publication of the study in four volumes would seem to promise a wider audience and influence for the book than had the entire work appeared in one large tome. Instead of being in danger of becoming merely a reference book, each part now becomes a very readable unit and whets the interest in the succeeding installments.

MYRON H. UMBREIT

Elsbree, Hugh L. *INTERSTATE TRANSMISSION OF ELECTRIC POWER*. Cambridge: Harvard University Press, 1931. pp. xiv, 212. \$2.50.

To the abundant literature on the subject of electric utility control Mr. Hugh L. Elsbee adds a unique study of the interstate power problem. The novel feature of the survey lies in its method—an analysis of all available state commission reports since 1919, dealing with interstate matters. It was a ponderous undertaking and the author has admirably condensed the findings and comprehended their significance.

The first half of the book establishes the fact of a serious gap in regulation. It is pointed out that the interstate power problem includes valuation proceedings and the supervision of security issues, as well as rate and service control, though these latter aspects are often treated as the entire problem. Mr. Elsbee lays emphasis on the relationships existing between these different aspects of regulation and on the need for their joint consideration as component parts of a total situation. Not only are the interstate transactions found to be inadequately regulated, but the interstate commerce clause is found to have acted as an impediment to adequate state control of the intrastate business.

Mr. Elsbee declares that the present system of control has at least four serious defects: (1) lack of or inadequate supervision over rates, service, and financing of electric utilities in some states makes more difficult the work of commissions in other states; (2) lack of uniformity in utility statutes and in procedure leaves gaps in control in some places and occasions duplication in others; (3) lack of cooperation between commissions makes possible disputes and discrimination and results in overlapping of functions; and (4) lack of control over interstate wholesale contracts has, in some cases, seriously hampered regulation of rates to consumers. We are told that the real issue is not whether the present system is suitable, but whether a suitable system can be devised by the states without any federal control.

His first pages Mr. Elsbee devotes to a discussion of state statutes limiting the free flow of interstate power and to a consideration of their constitutionality, reaching the conclusion that the state of the law and its interpretation are at present too vague for accurate prophecy as to the final policy. The

method of reasoning is chiefly through an analogy with gas transportation and other somewhat similar cases.

Mr. Elsbree cites the figures of the Harvard University interstate transmission bulletin, the National Electric Light Association, and the 1929 Federal Trade Commission report to prove that the physical transfer of electric power across state lines is a growing problem. However, he very rightly challenges the comparison of electric interconnection maps with railroad maps as misleading, since in actual practice "a single transmission of electric power rarely involves more than two states."

In the last half of his book Mr. Elsbree outlines what the state commissions have done toward supervising capitalization and rates, and considers some of the possibilities in future regulation.

As regards the control of electric utility financing Mr. Elsbree found some state commissions trying to do the work of five or six commissions in examining all domestic and foreign electric utilities, and six other states with no jurisdiction of security issues at all. According to Mr. Elsbree the supervision of the security issues of interstate utilities has given rise to two types of difficulties: (1) the danger that the commission's jurisdiction may be too narrow to protect the public interest (where only the issues of domestic corporations are controlled or where no control is exercised over issues for out-of-state projects to prevent placing an undue burden on local properties); and (2) the danger that the commission's jurisdiction may be too broad, so that it must study properties and projects under the jurisdiction of another state.

For adequate regulation of security issues three things are enumerated as necessary: (1) an increased degree of legislative uniformity; (2) an appreciation of the fact that interstate corporations are units; and (3) joint action by the state commissions under whose jurisdiction the utility operates, allowing treatment of the properties as a unit and at the same time permitting each commission to confine its investigations to properties within its own jurisdiction.

Although debates on the best method of regulating interstate electric transmission

have long centered on state control, regional control, and national control, Mr. Elsbree startles us by asserting that the problem is neither national, regional, nor local to the separate states. As a problem it usually concerns only two or at the most three states. Since this is so, methods of control call for cooperation between state commissions, rather than for large-scale national action, regional boards, or interstate compacts. Besides relying on the cases studied to show that only two or three states are affected by a given interstate electric problem, the writer points to the physical side of power transmission. Quoting the National Electric Light Association, he states that the average distance traveled by a kilowatt hour, from generating station to user, is only about 22 miles and single transmissions rarely involve more than two states.

After reviewing many cases involving wholesale and retail transactions, Mr. Elsbree reaches the conclusion that the only adequate solution can be provided by a body which has jurisdiction over both types. However, he fails to suggest any such body. He advances the proposition of cooperation between state commissions to control financing, but because of the Attleboro case concludes that interstate wholesale contracts can be controlled only by the Federal Government. The reviewer is disappointed because Mr. Elsbree does not give consideration to the possibilities inherent in "permissive" legislation. Professor George G. Reynolds¹ and Mr. William C. Scott², among several writers, have pointed out that through a federal enabling act the states would be able to have actual control over all interstate commerce in electricity.

In cases of valuation proceedings, investigation of security issues, and rate control, where two or more states are affected, Mr. Elsbree recommends consolidated hearings before the commissions in cooperative action, rather than separate hearings and investigations by each commission. Stress is laid upon the social wastes accompanying duplicate surveys. Under the constructive plan suggested, the state commissions would be given power, where they lack it, to hold joint hearings, carry on joint studies, and issue joint findings and orders with other

¹ Reynolds, George, *The Distribution of Power to Regulate Interstate Carriers Between the Nation and the States*, (New York: Columbia University Press, 1928).

² Scott, W. C., "Control of Power Transmission", 14 *Proceedings of the Academy of Political and Social Science* 135-56 (May, 1930).

state commissions. The cooperating commissions need not reach the same decisions, nor even use the same methods, although use of similar methods would be advantageous. They would still gain by eliminating duplication of effort, confining their survey to the property in their own jurisdiction, and discovering each other's points of view.

The underlying difficulty in the way of interstate cooperation is the fallacious assumption by most of the officials concerned that the problem is almost entirely an intrastate one. Regional compacts are rejected as a solution mainly because the problem is local to two or three states at a time and because such compacts would give no power over interstate wholesaling. The reviewer feels that once again the omission of consideration of "permissive" legislation has weakened the argument advanced.

It is submitted that along with state cooperation some degree of federal control should be exercised, but that it should be confined to cases of non-action, disagreement, or discrimination in state action. The treatment of this combination of federal and state control is suggestive rather than exhaustive and is somewhat academic. Assurance is extended to the opponents of national control, that there is no logical reason to expect such an extension of control over the electric industry as has occurred in railroad history. Even if the exercise of federal control is increased, "the disposition of a business which is 85 per cent intrastate and 15 per cent interstate" will not likely "be the same as of a business which is perhaps 85 per cent interstate and 15 per cent intrastate."

Mr. Elsbree points to the economic weakness of the legal distinction between interstate wholesaling and retailing. This legal distinction should not hide the fact that many features of retailing and wholesaling are similar. The data and information required for regulation of an interstate wholesaling company are often as much within the jurisdiction of a state, geographically speaking, as in the case of an interstate company distributing at retail.

Somewhat academically, there is a tendency throughout the book to overemphasize formal commission and court decisions and, therefore, to neglect what many commissions are doing by indirect regulation. It is felt by the reviewer that this may be caused

in large part by the method employed, that of examining written reports and case decisions.

CHARLES H. WRAY

Spengler, Edwin H. *LAND VALUES IN NEW YORK IN RELATION TO TRANSIT FACILITIES*. New York: Columbia University Press, 1930. pp. 179. \$3.00.

The usual assumption made in assessing property for the cost of improved rapid transit facilities is that the value of such property will be enhanced more than the amount of the assessment. Mr. Spengler has attempted to prove the falsity of this assumption on the basis of experience with property valuations and rapid transit improvement in New York City. For this purpose the City is divided into four divisions:

1. Downtown business area
 - a. Wall Street district
 - b. North to 14th Street
 - c. From 14th to 25th Streets
2. Mid-town district (25th to 59th Streets)
3. Central Park area (59th to 96th Streets)
4. North of 96th Street
 - a. Borough of the Bronx
 - b. Borough of Brooklyn
 - c. Borough of Queens

Whereas New York land values as a whole increased by 60% from 1905 to 1929, the experience of individual sections was quite different. For example, Manhattan has multiplied in value many times since 1905, whereas land in the lower East Side or along Broadway south of 14th Street has actually declined, and other sections have shown no appreciable change in value during this period. While Mr. Spengler recognizes that transportation agencies tend to accelerate those shifts in business or high-class residential concentrations which cause increased land values, he believes the transit facilities are not the whole cause of the increased values. They may, however, as in the case of elevated structures, be a considerable factor in the declining values of those sections from which the shift was made. In some areas, land values remained constant even though new rapid transit facilities were installed, and in others the new facilities failed to halt a decline in values as business shifted to other sites.

Therefore the author says, "Rather than to be considered a cause of land value

changes, a transit facility should more properly be regarded as a construction which permits or facilitates, under certain circumstances, an emergence of land values, the value being determined largely by other factors. Effects of rapid transit construction cannot be assumed to be uniform, and therefore no policy of special assessments can be

equitably applied if it seeks to make a mechanical levy according to some fixed formula for an area supposedly affected by new transit lines."

This book is very readable and easily understood. Reference tables and bibliography are included in the appendix.

J. S. DIAL

Book Notices

Locklin, D. Philip. RAILROAD REGULATION SINCE 1920. 1931 SUPPLEMENT. *New York: McGraw-Hill Book Co., Inc., 1931. pp. vii, 31. Free to purchasers of the book which has a list price of \$2.50.*

Much water has passed under the railroad bridge since 1928. One need mention only the O'Fallon case; the general rate-structure investigations made pursuant to the Hoch Smith Resolution; the interpretation of that resolution by the Supreme Court in *Ann Arbor Railroad v. United States*; the functioning of the machinery created by the Railway Labor Act; the promulgation of the Commission's "Final Plan" for railroad consolidation; and the investigation of railroad holding companies by a Congressional Committee, in order to indicate the importance of a supplement such as this. All of these developments, and others, receive brief treatment in the pages of the *Supplement*.

MARY LOUISE RAMSEY

Morgan, Jerome J. MANUFACTURED GAS: A TEXTBOOK OF AMERICAN PRACTICE. *New York: Jerome J. Morgan, 1926. 2 vols., mimeographed. pp. 1,000.*

The entire first volume of this work is devoted to the study of production of manufactured gases. In this the author treats most thoroughly the various methods, apparatus, and processes used for transforming a solid heat-unit into a gaseous heat-unit. A description of the more important gases from the efficiency point of view is given, together with comments on their use, chemical analysis, methods of production, etc. Blue gas, water gas, Pacific Coast oil gas, and Dayton gas each has a separate chapter in which the more technical aspects of its manufacture are discussed at length.

In the second volume the author considers the distribution, utilization, and business problems surrounding the industry. He con-

veys to the reader by his organization the need for unity in these three phases of industrial operations. Distributing equipment is completely described, including storage tank, mains, compressors, meters, and the like. A most important chapter on "Distribution Design" deals in a technical fashion with flow of gas in pipes, load curves, and pressure surveys.

In its business aspects, the author points out that the gas industry, like most other public utilities, is in many respects a competing industry, and must fight continually for new business. In view of this fact the necessity for pushing the sale of gas appliances is emphasized. The author shows what has been done in the field of new gas-using devices, many of which are most interesting; and he emphasizes the need of a new business department, that a newer and greater market may be exploited.

This book is a survey of the manufactured gas industry in all phases from production to consumption and, though at times it tends to become highly technical it is, nevertheless, most readable. An average person outside the industry could gain many concrete facts and much enlightenment from it.

REX HINSHAW

Clark, John D. THE FEDERAL TRUST POLICY. *Baltimore: The Johns Hopkins Press, 1931. pp. 305. \$2.75.*

This work, without a preface, appears to be the product of two motives: (1) to serve as a doctoral dissertation; and (2) to bring the study of the trust problem up to the present day. The principal part of the book, devoted to the history and passage of the Sherman Anti-Trust Act and to its supplementary legislation, enforcement, and judicial construction offers little to the reader that cannot be found in many other works in the field. The last two chapters under-

take to study the trust problem anew, and to point out briefly the successes of the Sherman Act. Here we find a review of the plans suggested for revision of the anti-trust policy, and of the opinions pertaining thereto. This is not enough. The time is ripe for a well organized discussion of the successes, the shortcomings, and the suggested changes in our national trust policy. Especially valuable would be a critical analysis of the social problems bound to arise if many of the suggested plans were adopted. The author of this book makes no contribution in this respect. He offers the opinions of many others on specific aspects of the problem, and makes no critical analysis of original sources and appears reluctant to state conclusions of his own. The reader is left in doubt as to the author's views upon such issues as the soundness of government price fixing, associative regulation of production by some scheme of industrial self-government, approval by a commission of proposed industrial combinations in order to avert prosecution for violation of the Sherman law, and proposed elimination of the criminal provision of the law. All these questions figure largely in current discussions of the trust problem and yet the most careful reading of Professor Clark's study leaves the reader without a clear understanding of the author's position.

JOHN W. BOATWRIGHT

KEANE'S MANUAL OF INVESTMENT TRUSTS
1930. Boston: Financial Publishing Company, 1930. pp. xlviii, 2246. \$15.

To the person interested in investment trust securities or the investment trust movement this 2,246 page *Manual* provides a wealth of useful information well organized and presented. The *Manual* is divided into two main sections: The first part contains information about specific investment trusts and investment trust securities; the second part surveys certain general developments which are of interest to the student of financial institutions and financial practices.

The specific information about the 608 investment trusts surveyed in the first part of the *Manual* varies considerably in completeness and usefulness as between the individual trusts examined. Some of this information about each trust, such as a short history of the organization, a summary of the management contracts and compensation, a

description of the capitalization and types of securities which the trust has outstanding, and summaries of income earned and expense incurred, may be of considerable value to a potential purchaser of securities and of interest to the student of investment trust development. The rapidity with which changes occur probably reduces greatly, however, the utility of other information presented, such as a statement of the portfolio of securities owned, summaries of the market value of securities owned, and comparisons of book and market values of the investment trust issues. An annual volume such as this possesses the disadvantage of being soon out of date, unless revised in the light of current changes in security holdings and changes in the market value of the securities owned. Information of this latter type, therefore, may prove of little value to the potential investor except as management may be judged historically. The lack of comparability in the amount and form of presentation greatly reduces the value of this information for purposes of comparing one trust with another. The recent character of the investment trust development reduces also the historical perspective which might be of considerable interest to an investor.

The second part of the *Manual* will probably prove of interest to one concerned with a broader survey of tendencies in the investment trust field. The regulatory side of this development is touched by including a summary of the state regulations governing incorporation and operation of investment trusts, and also the New York Stock Exchange listing requirements for investment trust securities.

The relation between investment trusts and other financial institutions is suggested by a summary list of directors, trustees and officers of investment trusts, a list of bank and trust company affiliations, and a summary of the securities distributed by various investment houses. This section summarizes the investment trust new financing since 1924, and shows the price range of investment trust securities.

The partial inadequacy of the information presented is probably an indictment of the investment trust management for not making available more information and not of the editor of the volume who was forced to use what was available. Nevertheless, this *Manual* is an accessible and usable source of

considerable information of value to anyone doing extensive work in the field. The size and scope of this work and the importance of the financial movement which it describes suggest the rapidity with which financial practices adjust themselves to changes in investment taste.

ROY L. REIERSON

Bogart, E. L. *ECONOMIC HISTORY OF THE AMERICAN PEOPLE*. New York: Longmans, Green and Co., 1930. pp. xii, 797.

This volume is not merely a revision of Professor Bogart's *Economic History of the United States* but a new and fuller treatment of the same subject. Professor Bogart, as he tells us in the preface, has attempted no less a task than that of organizing a vast body of material so as to make clear the "essential causal connection" of the facts relating to American economic history. This is not the place to discuss at any great length the possibility of clearly determining the causal connection between one set of events and another, but it must be remarked that, if such a goal were not aimed at, a treatise on history would be dull reading indeed. On the other hand, the path of the writer who attempts to arrive at this goal is beset with difficulties, for it is fatally easy to fall into the logical snare known as "post hoc propter hoc." The extreme difficulty of determining cause and effect in economic history was shown some years ago by Professor E. R. A. Seligman, who went so far as to say that, if historians succeeded in ascertaining the relation of cause and effect, they would be able to frame a scientific social law. Conversely, he claimed that to deny the existence of historical laws was to maintain that there was to be found in human life no such thing as cause and effect.

Professor Bogart does not appear to believe in the possibility of establishing historical "laws," at least in the present state of historical knowledge. This skepticism would seem to be well founded. Moreover, in most instances, he has succeeded in avoiding the "post hoc propter hoc" fallacy. In the main, he presents his material in a well-ordered sequence, without much stress on the various vexed questions relating to "cause and effect." Occasionally, however, one finds a somewhat over-simplified treatment of the concept of cause and effect in this volume. Consider, for instance, the following statement, taken from Professor

Bogart's able discussion of the development of transport facilities in the United States during the latter part of the 19th century. After describing the period of intense activity in railway construction during the years 1880-1883, Professor Bogart says (p. 636): "Construction was slowed up by the crisis of 1884, which was brought on by the too rapid and speculative railroad building of the years immediately preceding."

Such a statement would seem to imply that the undue speeding up of railway construction and the speculative activities connected with the building of railways were the only causes of the depression of 1884 in the United States. But, as is well known, the same year found France, Germany, and England in a similar slough of economic despond, at a time when England's most active period of railway construction was over, and when the German states were, for the most part, pursuing a policy of public ownership of railways. While the speculation connected with the rapid progress of railway construction in the United States was undoubtedly a factor in the involved complex of causes leading up to the American depression of 1884, it is exceedingly doubtful whether this was the sole cause.

Professor Bogart's treatment of the history of transport and other public utilities will be found useful to all students of the question, though a fuller account of the development of the postal system might well have been included. When considering the question of the conservation of natural resources, Professor Bogart reaches a conclusion which is forcing itself on most thoughtful writers, namely, that: "In many cases private profit and public policy are antagonistic, as in the use of forests, water, oil." (p. 559.)

GRACE M. JAFFÉ

Keynes, John Maynard. *A TREATISE ON MONEY*. New York: Harcourt, Brace and Company, 1930. 2 volumes, pp. 787. \$10.

The author of *A Treatise on Probability*, *The Economic Consequences of the Peace*, and *Tract on Monetary Reform* has undoubtedly added to his world-wide reputation as a keen analyst of the theoretical implications of economic phenomena. Some students of monetary theory will disagree with many or all of the views expressed. Others, however, will find themselves in whole-hearted accord

with the principal arguments presented. All will find a succession of ideas meriting the deepest consideration.

A Treatise on Money is divided into two volumes, both covering somewhat the same ground, but from different points of view. Volume I is entitled "The Pure Theory of Money" and is chiefly concerned with the presentation of Keynes' theory. Volume II is entitled the "The Applied Theory of Money" and is an attempt to investigate quantitatively some of the implications of his theory as well as to develop further some parts of it. Here he also presents his ideas as to how the monetary affairs of the world should be arranged.

Keynes is essentially a quantity theorist, but with modifications and qualifications. He is attempting to present a dynamic theory which will show the part which the monetary system plays in the day-by-day, week-by-week, month-by-month, and year-by-year changes in the tempo of economic activity. The usual form of the quantity theory and equation of exchange is essentially an explanation of the value or purchasing power of money under static conditions. Its leading exponent has said that it is not entirely satisfactory in explaining events in transition periods. Keynes' chief concern is with these transition periods. The quantity theory, therefore, undergoes much modification at his hands.

A Treatise on Money is concerned with money in an economic society where the check system is the most important means of settling transactions and where bank credit is most important in determining the quantity of money. This is becoming more and more true in the United States and Great Britain, as well as in some other countries. Most of Keynes' discussion and illustrations are concerned with the affairs of these two nations.

The problem of stating his thesis both fairly and briefly is rather difficult but it is somewhat as follows. The price level of consumption goods is a function of their volume and of the incomes of persons who purchase them, as well as of the proportions of these incomes that are spent. The money incomes of the purchasers of consumption goods come from payments to them by entrepreneurs. These incomes are the money costs of production to entrepreneurs. Some of these payments are for the production of

consumption goods and some for the production of capital goods. Investment is initiated by entrepreneurs and consists of addition to physical capital. The cost of investment adds to the incomes of the purchasers of consumption goods and therefore to the amount which they can spend on such goods. Saving, on the other hand, is a refusal on the part of recipients of income to spend all of it. The price level of consumption goods will remain constant so long as the quantity of such goods retains its ratio to the amount of income spent for them—i. e., so long as the rate of investment and the rate of saving are the same. However, the rate of investment and the rate of saving are determined by two different groups and over short, or even fairly long, periods of time conditions may arise which will cause them to be in disequilibrium. The result will be a change in the index of the price of consumption goods. If the rate of investment exceeds the rate of saving, the index will rise with profits to entrepreneurs, full employment of the factors of production, and probably declining real wages. If the rate of saving exceeds the rate of investment, the index will fall with losses to entrepreneurs and resultant unemployment, which only aggravates the situation. Much of Keynes' discussion is devoted to a consideration of the conditions under which such disequilibria will arise, with attention being directed to the part played by the policy of the Central Bank, to the effect of foreign trade and foreign loans, and other factors.

As an exponent of "managed money" Keynes believes that the duty of maintaining equilibrium in the price level of consumption goods should be placed on the Central Banks. Along with this duty should go greater powers of control. He also mentions but does not stress sufficiently, to the mind of the reviewer, the necessity for greater knowledge, understanding, courage, and freedom from political influence on the part of the authorities of the Central Banks before such a policy can be relied upon to bring the optimum results. He concludes with a plan to establish a Supernational Bank to aid the Central Banks in maintaining stability.

Keynes is not easy to understand. Possibly this is because he uses some terms with concepts which are not usually at-

tached to them. In addition, he has invented a number of new terms and symbols. However, his meaning rather grows on one in going through the volumes and in the final analysis it is difficult to state whether this terminology is an aid or an hindrance to clarity. Probably the work is too long and somewhat repetitive. In his preface the author himself states that this is so. Preliminary investigations also indicate that there may have been some carelessness in the use of statistics and indexes. If this is so, it is properly a ground for criticism but is not fatal since the figures used are chiefly for the purpose of illustration rather than exact quantitative measurements of cause and effect relationships. One of his main contributions will be the stimulus to the collection of further statistics.

A Treatise on Money may be of interest to students of land economics and public utilities as well as of monetary theory because of the author's emphasis on the rate of investment. He believes that turning points in the business or "credit" cycle are caused by changes in the rate of investment in fixed capital and "almost the whole of the fixed capital in the world is represented by buildings, transport and public utilities; and the sensitiveness of these activities even to small changes in the long-term rate of interest, though with an appreciable time-lag, is surely considerable."

A. D. THEOBALD

1931 BUILDING AND LOAN ANNALS. Chicago: United States Building and Loan League, 1931. pp. xvi, 1484. \$7.50.

The policy of the United States Building and Loan League, inaugurated in 1930, of presenting in an annual volume the best of current building and loan literature and the most up-to-date statistics of that business has established the *Annals* as the source book for building loan operators and for laymen seeking authoritative information on building and loan topics.

The 1931 volume contains discussions of such pertinent current problems as liquidity, withdrawal restrictions, loan policies, real estate values, and accounting procedure. Also included are the papers and discussions presented at the 1931 meetings of the International Congress of Building Societies and Building and Loan Associations which contain much valuable and interesting material on the conduct of the building and loan business abroad. Finally, of especial value is the compilation of building and loan legislation passed in 1931, which was one of the most important years from the point of view both of volume and significance of regulations enacted in the history of the building and loan business. Current interest in the construction industry, housing programs, and stimulation of home financing as relief measures give added value to many of the materials in this volume.

HELEN C. MONCHOW.

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